

A Key to the Labiatae of China.

BY

STEPHEN TROYTE DUNN, B.A., F.L.S., F.R.G.S.,
Formerly Superintendent of the Botanical and Forestry Department, Hongkong, China.

THE following keys to the genera and species of the Labiate plants of China proper, and the enumeration of the species which accompanies them, were drawn up from the splendid mass of material assembled at Kew from the chief herbaria of the Old World, under the circumstances mentioned in my preliminary paper in this periodical (xxxvii, 154), published two years ago. The characters and localities mentioned are taken from the actual specimens seen, and it has been possible to compare most of them with their original types. The only large collection consulted since the above paper was written has been the Labiates of the Hongkong herbarium, kindly entrusted to me by my friend and successor, Mr. W. J. Tutcher, Superintendent of the Botanical and Forestry Department of that important Crown Colony, which Sir Joseph Hooker once referred to in an official memorandum as the key to the botanical position with respect to China.

The keys have throughout been constructed on practical lines, and are based as far as possible on characters easily observable without minute examination. The enumeration on the same principle contains references only to the clearest and most readily accessible descriptions of the genera and species. These are followed in each case by the colour of the flowers, months of flowering, and natural habitat whenever the information has been obtained. A list of the specimens seen from each province follows, the collectors' numbers being added for the convenience of students in herbaria not annotated by the writer. A classified list of determinations of plants numbered by the different collectors is appended to the paper.

My object in selecting the *Labiatae* out of all the families represented in the Chinese flora to examine at this time was to test whether botanical exploration had proceeded far enough to make possible the study of the phytogeographical division of the empire. For these attractive and easily preserved plants

[Notes, R.B.G., Edin., No. XXVIII, May 1915.]

A

Wt. 13/608—450—5/15.—N. & Co., Ltd. Gp. 10.

are probably better represented in our herbaria than most others. The writer is reluctantly forced to the conclusion that our present knowledge does not warrant the drawing up of any such scheme of plant areas for China, and the following suggestions are merely an indication of some obvious distribution lines which appeared in the preparation of the work. The apparent distribution along lines is doubtless due to the fact that, compared with the great bulk of the empire, the areas collected in are but isolated points, and the attempt to trace out an area of distribution results in lines connecting them.

1. Commencing then from Yunnan, the south-west corner of China, and probably the richest province in Labiates, many species (such as *Leucas mollissima* and *Teucrium japonicum*) extend due eastwards along the dry hills of S. China as far as Hainan and Kwangtung and northwards as far as E. Szechuen and Hupeh through Kweichow. *Teucrium quadrifarium* and *Stachys kouyangensis*, starting from the same province, pursue a north-eastern line, reaching as far as the Yangtze in lower situations, while such species as *Plectranthus ternifolius*, though common and characteristic in the southern uplands, extend no further north than Kweichow. *Elsholtzia communis* and *E. polystachya*, avoiding on the other hand the eastern part of this area, seem to follow the dry grassy mountain pastures through the centre of China as far as the middle of the northern boundaries in Shensi and Chili.

2. While the above species follow lines radiating out from Yunnan through the half quadrant east to north-east, many others, such as *Orthosiphon rubicundus*, *Plectranthus Coetsa*, *Salvia hians*, and *Nepeta lamiopsis*, are found to extend from Yunnan due north along the bare stony pastures which flank the lofty mountain ranges of Tibet as far as Ta-chien-lu in E. Szechuen. *Dracocephalum tanguticum* and *D. heterophyllum* reach still further north on the same line, running down to the lesser altitudes of Kansu; while the peculiar group of *Elsholtzia* species, with woolly flower-spikes, is represented by a succession of forms along the same range (viz. *E. ianthina* in Kansu, *E. calycocarpa* and *E. eriostachya* further south). All the species of north and south extension show, as usual, increasing altitude with decreasing latitude.

3. Coming now to denizens of damp and shady places which radiate from the south-west, *Pogostemon fraternus* and *P. glaber*, *Scutellaria discolor*, *Craniotome versicolor*, and *Leucosceptrum canum* reach from India only as far as the shady forests of S. Yunnan; *Dysophylla verticillata* and *D. auricularia* extend thence due eastwards to Kwangtung, while *D. linearis* reaches north-eastwards to Kweichow. *Scutellaria rivularis* has in the

same region a much wider range, adorning with its intensely blue spikes the margins of springs and rivulets as far north as the Yangtze and as far east as the damp upland woods of Fukien.

4. Transferring our attention now to the opposite or north-east corner of China, *Plectranthus glaucoides*, Thyme (*Thymus Serpyllum*), *Scutellaria scordifolia*, and *S. viscidula* are known in the empire only from Shantung and Chili, the north-eastern-most provinces. *Plectranthus amethystoides*, *Mosla dianthera*, and *M. lanceolata* are examples of the numerous species extending down the whole east coast on the dry grassy ranges so well known to mariners of the coastwise routes. *Salvia miltiorrhiza*, on the other hand, though abundant in the northern coastal provinces, does not reach further south than Chekiang and extends westwards to Hupeh.

5. *Ajuga ciliata* follows a diagonal south-west course from the north-east as far as central China, while such species as *Nepeta Cataria* continue the same south-west line across the whole country as far as Yunnan.

6. A few maritime species such as *Hyptis suaveolens* follow the salt marshes from the south as far as Fukien, but in this family, as in the rest of the Chinese flora, few species are restricted to saline regions.

7. *Scutellaria macrantha*, one of the finest Labiate plants of the flora, is confined, like a few other species, to the line of northern provinces.

8. The centre of China, viz. Hupeh and its neighbourhood, is, so far as records show, the home of an unusually large number of endemic species, such as *Salvia Maximowicziana* and *Phlomis gracilis*; but it must be remembered that the region has become better known than almost any other in consequence of the inclusion of Henry's vast collections there in the material elaborated by Hemsley in his Enumeration of the plants of China in the Linnean Journal.

9. As regards endemic elements in the various provinces there is doubtless everywhere a comparatively large proportion of species exclusively confined to each of the numerous isolated and peculiar tracts which occur throughout the country, and every new mountain which is botanically explored yields its quota of novelties. In the writer's own experience, a month's sojourn on the central range of Fukien contributed some 30-40 new species to the flora; while three days on the sacred mountain, Hong Wong Shan, near Swatow, has enriched our knowledge with many beautiful species before unknown. Yunnan has a very large list of exclusive species, having been the hunting-ground of three most energetic collectors whose finds were examined and described by, or for, three of the most efficient

botanical establishments in the world. The centre of the province was known first from the collections of Delavay and the writings of Franchet at the Jardin des Plantes, Paris; the south from Henry's collections and the labours of Kew botanists, still in progress; the north from Forrest's explorations and the publications of the Edinburgh Botanic Garden. The romantic and adventurous journeys of the latter collector will, it is to be hoped, be described some day in book form, and they might make one of the most attractive narratives of botanical enterprise in China. Next to Yunnan, perhaps Szechuen is the best known from the writings and collections of Wilson, and especially from the *Plantae Wilsonianae* published by the Arnold Arboretum. Kwangtung, though less fortunate in its failure to attract horticultural collectors and in the absence of very large exhaustive collections in European herbaria, has had many earnest botanical students from the earliest times of European immigration. The collections of Hance and Ford, and in more recent times Matthew, Tutcher, and the writer, have been examined and described at different times and in many publications. But the province has the unique advantage of a complete descriptive flora (*Flora of Kwangtung*, by Dunn and Tutcher), and of a botanical establishment and fine herbarium at Hongkong. These three provinces have already been proved to have large endemic lists, and these are not likely to be greatly reduced. In a smaller degree the same may be said of the less explored regions; and when the mapping out of botanical regions comes to be undertaken, the existence of many specialised internal areas will doubtless be recognised.

KEY TO GENERA.

- | | | |
|---|--------------------------|--|
| 1. Lower or horizontal lip or (when subregular) | | |
| lobe of corolla entire | 2. | |
| Lower or the erect lip 3-lobed | 26. | |
| 2. Upper tooth of calyx very broad | 3. | |
| Upper tooth little, if any, broader than others | 13. | |
| 3. Upper tooth of calyx decurrent on tube | 10. | |
| Upper tooth not decurrent | 4. | |
| 4. Corolla spurred | 8. <i>Plectranthus</i> . | |
| Corolla not spurred nor gibbous at base | 5. | |
| 5. Flowers in compact spikes or heads | 6. | |
| Inflorescence loose | 8. | |
| 6. Flowers in globular heads | 5. <i>Acrocephalus</i> . | |
| Flowers in oblong or linear spikes | 7. | |

- | | |
|--|--------------------------|
| 7. Leaves ovate serrate | 10. <i>Anisochilus</i> . |
| Leaves oblong crenate | 4. <i>Nosema</i> . |
| 8. Calyx cylindric pitted | 9. |
| Calyx campanulate | 12. |
| 9. Fruiting calyx 3-4 times as long as broad . | 2. <i>Geniosporum</i> . |
| Fruiting calyx twice as long as broad . | 3. <i>Mesona</i> . |
| 10. Calyx lobes shut together in fruit | 31. <i>Scutellaria</i> . |
| Calyx campanulate in fruit | 11. |
| 11. Corolla tube distinctly exerted | 7. <i>Orthosiphon</i> . |
| Corolla tube hardly exerted | 1. <i>Ocimum</i> . |
| 12. Corolla lobes nearly equal | 6. <i>Moschosma</i> . |
| Lower lobe longer, deflexed | 9. <i>Coleus</i> . |
| 13. Corolla gibbous at base or distinctly 2-lipped
or inflorescence loose | 17. |
| Corolla tube cylindric, hardly 2-lipped; in-
florescence compact | 14. |
| 14. Corolla distinctly 4-lobed | 15. |
| Corolla 5-lobed | 16. |
| 15. Leaves pinnatifid | 50. <i>Amethystea</i> . |
| Leaves not deeply lobed | 19. |
| 16. Stamens 2 | 19. <i>Mosla</i> . |
| Stamens 4 | 18. <i>Perilla</i> . |
| 17. Calyx teeth setaceous | 11. <i>Hyptis</i> . |
| Calyx teeth triangular or lanceolate | 18. |
| 18. Corolla bilabiate; stamens declinate . | 8. <i>Plectranthus</i> . |
| Corolla lobes spread into a flat limb; stamens
divaricate | 17. <i>Hancea</i> . |
| 19. Filaments bearded at centre | 20. |
| Filaments glabrous | 22. |
| 20. 3 or more leaves whorled together | 13. <i>Dysophylla</i> . |
| Leaves opposite in pairs | 21. |
| 21. Leaves sessile or subsessile | 13. <i>Dysophylla</i> . |
| Leaves long-stalked | 12. <i>Pogostemon</i> . |
| 22. Calyx divided nearly to base | 25. |
| Calyx shortly lobed | 23. |
| 23. Flowers in dense axillary whorls | 24. |
| Flowers in terminal or axillary often dense
racemes | 15. <i>Elsholtzia</i> . |
| 24. Anthers 4; calyx teeth lanceolate | 20. <i>Mentha</i> . |
| Anthers 2; calyx teeth subulate | 21. <i>Lycopus</i> . |
| 25. Calyx plumose, pappus-like | 14. <i>Colebrookia</i> . |
| Calyx subglabrous | 16. <i>Keiskia</i> . |

26. Upper lip of corolla much shorter than the lower, bifid or o 27.
 Upper lip as long as, or longer than, the lower, entire 31.
27. Flowers minute, in crowded cymes 35. *Craniotome*.
 Flowers of moderate size, spiked or racemed 28.
28. Stamens included 33. *Chelonopsis*.
 Stamens exserted 29.
29. Flowers in dense woolly spikes 52. *Leucosceptrum*.
 Flowers in racemes 30.
30. Upper lip of corolla entire or emarginate 53. *Ajuga*.
 Upper lobes of corolla 2 or 4, equal 51. *Tencrium*.
31. Flowers in small corymbd spikes 22. *Origanum*.
 Inflorescence not corymbd 32.
32. Leaves small entire 33.
 Leaves moderate or large, crenate or serrate 34.
33. Calyx bilabiate 23. *Thymus*.
 Calyx teeth equal 24. *Micromeria*.
34. Stamens 2, anthers on long-equitant connective 27. *Salvia*.
 Stamens 4 35.
35. Calyx 13-15-nerved 36.
 Calyx 5-10-nerved 40.
36. Calyx bilabiate 37.
 Calyx teeth equal and sinuses equal 39.
37. Bracts bristle-like; corolla tube hardly exserted 25. *Calamintha*.
 Bracts broader or corolla tube far exserted 38.
38. Calyx with 5 distinct veins, others obscure 26. *Melissa*.
 Nerves of calyx 15 distinct 30. *Dracocephalum*.*
39. Flowers in dense terminal spikes without bracts 28. *Lophanthus*.
 Flowers in loose inflorescences or with conspicuous bracts 29. *Nepeta*.
40. Stamens included in corolla tube 41.
 Stamens exserted 42.
41. Leaves inciso-lobate 34. *Marrubium*.
 Leaves crenate or serrate 33. *Chelonopsis*.
42. Upper lobe of calyx broad, winged 43.
 Calyx lobes subequal 44.

* The division of *Dracocephalum* from *Nepeta* was recognised by Linnaeus and most subsequent botanists as depending upon the bilabiate form of the calyx in the former, the latter having 5 equal calyx teeth. The irregularity of the bilabiate calyx of *Dracocephalum* consists in either (1) having one broad upper lobe and 4 small narrow ones below, or (2) having 3 teeth united nearly to the top, the remaining 2 free from each other and from the 3 united ones.

43. Flowers in a single terminal spike ; filaments
 bifid at top 32. *Prunella*.
 Flowers in paniced racemes 42. *Paralamium*.
44. Calyx with 10 equal teeth 44. *Leucas*.
 Calyx 5-toothed with occasionally 5 inter-
 mediate smaller ones 45.
45. Style equally bifid 46.
 Style entire, or lobes very unequal 55.
46. Corolla tube saccate on lower side 49. *Eurysolen*.
 Corolla tube cylindric or equally dilated
 above 47.
47. Nutlets fleshy when ripe 48. *Gomphostemma*.
 Nutlets dry when ripe 48.
48. Shrubs with scarlet flowers 37. *Colquhounia*.
 Herbs 49.
49. Nutlets rounded at top 50.
 Nutlets truncate, often with a raised rim at top 53.
50. Leaves trifid or calyx teeth spinose 39. *Galeopsis*.
 Leaves entire or lobed, teeth not spiny 51.
51. Stamens longer than corolla 36. *Anisomeles*.
 Stamens included under upper lip 52.
52. Nutlets supported on conspicuous gynophore 43. *Loxocalyx*.
 Nutlets sessile 38. *Stachys*.
53. Plant shaggy with long silky hairs 46. *Eriophyton*.
 Plant without long silky hairs 54.
54. Leaves not lobed ; calyx teeth soft 41. *Lamium*.
 Leaves pinnatifid or calyx teeth spinous 40. *Leonurus*.
55. Flowers in dense whorls 45. *Phlomis*.
 Flowers in stalked cymes 47. *Microtoena*.

1. **Ocimum**, Linn. ; Fl. Brit. Ind. iv, 607.

- Leaves softly hairy, regularly closely crenate ;
 calyces thickly glandular with few soft
 hairs 1. *O. sanctum*, L.
 Leaves nearly glabrous, nearly entire ; calyces
 with few glands, setose 2. *O. basilicum*, L.

1. **Ocimum sanctum**, Linn. ; Fl. Brit. Ind. iv, 609.

Flowers white.
 SZECHUEN : O-mi-shan, 1899, *Hugh*.
 HAINAN : *Henry*, 8709.

2. **Ocimum basilicum**, Linn. ; Fl. Brit. Ind. iv, 608.

Flowers purple, August. Woods.
 CHILI : Pekin, *Bretschneider*.
 CHEKIANG : *Hickin*.

YUNNAN: Mengtze, *Henry*, 11,375; *Ducloux*, 512.

KIANGSU: Shanghai, *Faber*.

YUNNAN: Yunnan-sen, *Maire*, 24; Mengtze, 5000 ft., *Henry*, 11,375; *Ducloux*, 512.

KWANGTUNG: *Ford*, 140; Swatow, Wukingfu, *Dalziel*.

2. *Geniosporum*, Wall. ; Fl. Brit. Ind. iv, 609.

Geniosporum strobiliferum, Wall. ; Fl. Brit. Ind. iv, 610.

Flowers white with purple veins. Dry forests.

YUNNAN: Pu-erh, *Henry*, 13,393.

3. *Mesona*, Bl. ; Fl. Brit. Ind. iv, 611.

Leaves obtuse at apex, acute or acuminate at the base, glabrous

1. *chinensis*.

Leaves acute at apex, obtuse at base, thinly hairy beneath

2. *procumbens*.

1. *Mesona chinensis*, Benth. ; Fl. Hongk. 274.

Flowers September.

KWANGTUNG: Thai-yong, 2000 ft., Swatow, *Dalziel*; Saywan, Hongkong, *Wilford*, 216; Hongkong, *Harland*, 675.

2. *Mesona procumbens*, Hemsl. in Ann. Bot. ix (1895), 155, t. 7. Flowers blue, April to November.

KWANGTUNG: Phoenix Mt. near Swatow, *Dunn*; Hongkong New Territory, cult. *Tutcher*.

4. *Nosema*, Prain in Journ. As. Soc. Beng. lxxiii, 20.

Nosema prunelloides, Prain.

Mesona prunelloides, Hemsl. in Journ. Linn. Soc. xxvi, 267.

Flowers pink, blue, or white, April to October. Rocky slopes.

HAINAN: *Katsumata*; Shun Cheong, *Ford*, 457; Pakhoi, *Playfair*.

5. *Acrocephalus*, Benth. ; Fl. Brit. Ind. iv, 611.

Herb 1. *capitatus*.

Shrub 2. *fruticosus*.

1. *Acrocephalus capitatus*, Benth. ; Fl. Brit. Ind. iv, 611.

Flowers white or pale purple.

YUNNAN: Szemao, *Henry*, 12,610.

2. *Acrocephalus fruticosus*, Dunn in Notes Bot. Gard. Edin. xxxvii, 154.

Flowers September.

YUNNAN: Valley of Yangtze below Pung-tzu-la at 9000 ft., *Forrest*, 582.

6. *Moschosma*, Reichb. ; Fl. Brit. Ind. iv, 612.*Moschosma polystachyum*, Benth. ; Fl. Brit. Ind. iv, 612.

Flowers flesh-coloured.

HAINAN : Henry, 8181.

7. *Orthosiphon*, Benth. ; Fl. Brit. Ind. iv, 612.

- | | |
|---|---------------------------|
| 1. Corolla longer than the stamens | 2. |
| Corolla much shorter than the stamens | 3. |
| 2. Corolla slender ; leaves suddenly narrowed
into slender petioles | 1. <i>O. marmoritis</i> . |
| Corolla broad ; leaves gradually narrowed
below, sessile or subsessile | 2. <i>O. rubicundus</i> . |
| 3. Corolla more than 2 cm. long | 3. <i>O. stamineus</i> . |
| Corolla less than 1.5 cm. long | 4. <i>O. debilis</i> . |

1. *Orthosiphon marmoritis*, Dunn in Notes Bot. Gard. Edin.
xxxvii, 154.*Plectranthus marmoritis*, Hance in Journ. Bot. 1874, 53.

Flowers white, July and August. On rocks in shady places.

KWANGTUNG : Ford, 146 (partly) ; West River, Sampson,
18th July 1872 ; Lungchow, Morse, 531.2. *Orthosiphon rubicundus*, Benth. ; Fl. Brit. Ind. iv, 614.*Coleus wulfeniioides*, Diels in Notes Bot. Gard. Edin. xxv, 231.Flowers pink, red, or purple, May to September. Barren
grassy slopes and pine woods.

SZECHUEN : Tung valley, 4500 ft., Wilson, 4349.

YUNNAN : Ducloux, 17 ; Yunnan-sen, Maire, 219, 1758,
2004, 2181, 2693 ; common in pine woods on the sides of the
Hoching and Lichiang ranges at 8000-9000 ft., Forrest, 126 ;
south end of Lang-kong valley, Forrest, 5584 ; Mengtze, 5000
ft., Henry, 9800, Hancock, 66.

HAINAN : Sam-shan-sze, Dunn's Chinese collector.

3. *Orthosiphon stamineus*, Benth. ; Fl. Brit. Ind. iv, 615.

Flowers blue.

HAINAN : La-tai-si, Ford, 460 ; Henry, 8533 ; Tingan
(Katsumata) Hongkong Herb. 5556.4. *Orthosiphon debilis*, Hemsl. in Journ. Linn. Soc. xxvi, 267.*Plectranthus cardiaphyllus*, Hemsl. l.c. 269.

Flowers white.

SZECHUEN : S. Wushan, 7500 ft., Henry, 5770, Wilson, 4348,
4348A.

HUPEH : Chien-shih, Henry, 5770A, 6993, 6050.

8. *Plectranthus*, L'Herit.; Fl. Brit. Ind. iv, 616.

- | | |
|--|--|
| 1. Leaves whorled in threes | 1. <i>ternifolius</i> . |
| Leaves opposite | 2. |
| 2. Calyx with 2 nearly entire lips; corolla
spurred | 49. |
| Calyx with 5 nearly equal teeth | 3. |
| 3. Corolla tube 4-6 times as long as the calyx | 4. |
| Corolla tube not more than twice as long as
the calyx | 9. |
| 4. Flowers racemose | 5. |
| Flowers paniculate | 6. |
| 5. Upper lip of the corolla about equal to the
lower | 2. <i>macranthus</i> . |
| Upper lip of the corolla 3 times as long as
the lower | 3. <i>Prainianus</i> . |
| 6. Leaves ovate | 7. |
| Leaves linear-oblong | 4. <i>angustifolius</i> . |
| 7. Corolla widely gibbous at the base | 5. <i>Bulleyanus</i> . |
| Corolla cylindric at the base | 8. |
| 8. Leaves blunt, subsessile | 6. <i>Stracheyi</i> . |
| Leaves acute, stalked | 7. <i>striatus</i> . |
| 9. Leaves distinctly stalked | 10. |
| Leaves sessile or subsessile | 30. |
| 10. Leaves stellately tomentose | 11. |
| Leaves without stellate tomentum | 13. |
| 11. Leaves rugose | 12. |
| Leaves flat | 8. <i>discolor</i> . |
| 12. Teeth of fruiting calyx $\frac{1}{2}$ of its tube | 9. <i>leucophyllus</i> . |
| Tube of fruiting calyx equal to the teeth | 10. <i>rugosus</i> . |
| 13. Leaves cordate | 11. <i>sculponiatus</i> . |
| Leaves not cordate | 14. |
| 14. Flowers racemose | 12. <i>excisus</i> (var. <i>racemosus</i>). |
| Flowers paniculate or in axillary cymes | 15. |
| 15. Calyx teeth, at least in fruit, 4 times the
teeth | 16. |
| Calyx tube not more than twice the teeth | 22. |
| 16. Corolla 9-10 mm. long; seeds oblong | 13. <i>rubescens</i> .* |
| Corolla 5-6 mm. long | 17. |
| 17. Corolla widely gibbous at the base | 14. <i>phyllopodus</i> . |
| Corolla nearly or quite cylindric at the base | 18. |

* *P. rubescens*, Hemsl., is a glabrous-leaved form of a species which includes scabrous- and densely pubescent-leaved plants connected together by various intermediates. The shape of the corolla, calyx, and leaves, and the red colour of the plant are uniform in all. *P. Coetsa* differs in its large branching habit, its calyx 3 mm. not 5 mm. long, and its calyx teeth $\frac{1}{2}$ not $\frac{1}{4}$ of the tube.

18. Corolla tube 3-4 times longer than the calyx; calyx 1 mm. broad and long, calyx teeth blunt 7. *striatus*.
 Corolla tube not more than twice as long as the calyx 19.
19. Leaves acute or acuminate 20.
 Leaves blunt 15. *Henryi*.
20. Inflorescence woolly 16. *ericalyx*.
 Inflorescence not woolly 21.
21. Leaves grey-pubescent beneath 17. *Cavaleriei*.
 Leaves nearly glabrous beneath 18. *glaucocalyx*.
22. Corolla widely gibbous at base 23.
 Corolla cylindric at base or nearly so 28.
23. Corolla 5-6 mm. long 19. *Coetsa*.
 Corolla 7-15 mm. long; leaves glabrous 24.
24. Leaves obtuse or acuminate; flowers in narrow panicles or in axillary cymes 25.
 Leaves cuspidate; flowers in spreading panicles 12. *excisus*.
25. Leaves shortly acuminate 26.
 Leaves obtuse 27.
26. Corolla 7 mm. long 20. *Rosthornii*.
 Corolla 1.1 cm. long 21. *ricinispermus*.
27. Corolla 7-9 mm. long 22. *adenanthus*.
 Corolla 1.2-1.4 cm. long 23. *irroratus*.*
28. Leaves lanceolate, acute, cuneate at the base 29.
 Leaves ovate, abruptly acuminate at the base 15. *Henryi*.
29. Fruiting calyx teeth short, triangular 18. *glaucocalyx*.
 Fruiting calyx teeth long, acute 24. *nervosus*.
30. Corolla widely gibbous at the base 31.
 Corolla cylindric at base or nearly so 46.
31. Flowers 1.2-1.5 cm. long 32.
 Flowers 5-10 mm. long 34.
32. Leaves linear-oblong 4. *angustifolius*.
 Leaves ovate 33.
33. Flowers in axillary cymes; leaves obtuse 23. *irroratus*.
 Flowers in loose panicles; leaves acute 25. *Forrestii*.
34. Inflorescence woolly or tomentose 16. *ericalyx*.
 Inflorescence glabrous or pubescent 35.
35. Flowers in racemes 12. *excisus* (var. *racemosus*).
 Flowers in panicles or cymes 36.

* *P. irroratus*, Diels, in cultivation has larger leaves and fewer flowers.

- | | |
|---|---|
| 36. Flowers 8-10 mm. long | 37. |
| Flowers 5-6 mm. long | 26. <i>amethystoides</i> . |
| 37. Leaves acuminate or acute | 38. |
| Leaves obtuse | 42. |
| 38. Flowers in axillary cymes | 39. |
| Flowers in panicles | 40. |
| 39. Shrub ; leaves finely serrate | 27. <i>pleiophyllus</i> . |
| Large herb ; leaves coarsely serrate,
acuminate | 28. <i>grosseserratus</i> . |
| 40. Bracts serrate | 41. |
| Bracts sub-entire | 26. <i>amethystoides</i> . |
| 41. Whole plant pubescent ; panicle spreading
Plant subglabrous ; panicle narrow | 29. <i>megathyrsus</i> .
22. <i>adenanthus</i> . |
| 42. Leaves all radical | 30. <i>oreophilus</i> . |
| Leaves cauline | 43. |
| 43. Flowers in axillary cymes | 27. <i>pleiophyllus</i> . |
| Flowers paniculate | 44. |
| 44. Leaves ovate | 45. |
| Leaves oblong or linear oblong | 4. <i>angustifolius</i> . |
| 45. Leaves cuneate at the base | 22. <i>adenanthus</i> . |
| Leaves rounded at the base | 27. <i>pleiophyllus</i> . |
| 46. Calyx 1 mm. long and broad ; calyx teeth
blunt | 6. <i>Stracheyi</i> . |
| Calyx more than 1 mm. long | 47. |
| 47. Inflorescence paniculate | 48. |
| Inflorescence of axillary cymes ; leaves
densely pubescent and reticulate be-
neath | 31. <i>phyllostachys</i> . |
| 48. Inflorescence subglabrous | 24. <i>nervosus</i> . |
| Inflorescence woolly | 16. <i>ericalyx</i> . |
| 49. Corolla with a long slender spur | 32. <i>calcaratus</i> . |
| Corolla with a broad spur of moderate length | 33. <i>macrocalyx</i> . |

1. **Plectranthus ternifolius**, Don. ; Fl. Brit. Ind. iv, 621.

Elsholtzia Lychnitis, Léveillé et Vaniot in Fedde, Rept. Nov. Sp. viii, 425.

Flowers whitish to lavender, September and November. Dry open mountain sides.

KWEICHOW : Tchen-lin-tcheou, *Bodinier et Martin* ; Tou-tcheou, *Cavalerie*, 2573.

YUNNAN : Mountains east of Szemao at 5000 ft., *Henry*, 9020, 9020A ; Salween-Irrawadi divide, 5000-7000 ft., N. of Ya-ko, *Forrest*, 1043 ; Tali-fu to Tengyueh road, *Forrest*, 1007.

KWANGSI : Lungchow, *Morse*, 134.

KWANGTUNG: Mainland opposite Hongkong 2000–3000 ft.,
Hance, 745; common on the bare uplands above Taipo, *Dunn*.

2. **Plectranthus macranthus**, Hook. f.; Fl. Brit. Ind. iv, 616.
Hancea Hemsleyana, Léveillé in Fedde, Repert. Nov. Sp. ix, 223.

Flowers violet to rose-purple, August to September. Moist banks of streams, sides of marshes, etc., and in dense jungle.

SZCHUEN: Omi, *Wilson*, 5118A, B.

KWEICHOW: Pin-fa, *Cavalerie*, 363.

YUNNAN: Mingkwang-Irrawadi divide at 7000–8000 ft.,
Forrest, 961; Teng-yueh, *Howell*, 126.

3. **Plectranthus Prainianus**, Dunn in Notes Bot. Gard. Edin. xxxvii, 158.

Hancea Prainiana, Léveillé in Fedde, Repert. Nov. Sp. ix, 223.

Flowers violet, August.

KWEICHOW: near the cascades, Pin-fa, *Cavalerie*, 362.

4. **Plectranthus angustifolius**, Dunn in Notes Bot. Gard. Edin. xxxvii, 154.

Flowers dark or light purple. Grassy mountains.

HUPEH: Fang, *Wilson*, 2577.

YUNNAN: *Ducloux*, 274 (*vide* Henry); Mengtze, 5000–5500 ft., *Henry*, 10,069, 10,069A; near Yunnan-sen, *Maire*, 2497, 2600.

5. **Plectranthus Bulleyanus**, Diels in Notes Bot. Gard. Edin. xxv, 229.

Flowers deep blue, June. Dry situations among scrub and shady pastures.

YUNNAN: eastern flank of Tali range at 9000–10,000 ft.,
Forrest, 4554.

6. **Plectranthus Stracheyi**, Benth. Fl. Brit. Ind. iv, 618.

P. veronicifolius, Hance in Journ. Bot. 1885 (Nov.), 327.

Flowers white, November.

YUNNAN: Forests south of Szemao at 4000 ft., *Henry*, 12,721.

HAINAN: Hung-mo (Lai Distr.), *B. C. Henry*, Nov. 21, 1882.

7. **Plectranthus striatus**, Benth.; Fl. Brit. Ind. iv, 618.

P. Gerardianus, * Benth.; Fl. Brit. Ind. iv, 617.

P. Tatei, Hemsl. in Journ. Linn. Soc. xxvi, 274.

P. Esquirolii, Léveillé in Fedde, Repert. Nov. Sp. ix, 247.

Orthosiphon Bodinieri, Van. in Bull. Acad. Geogr. Bot. xiv, 170.

O. glabrescens, Van. l.c. 168.

* *P. Gerardianus*, Benth.: see Notes Bot. Gard. Edin. xxxvii, 156.

Flowers from pale blue or white to dark red, June to January. Forest, woods, scrub, damp shady places, grassy mountains.*

SZECHUEN: W. China at 1200 ft. to 2800 ft., *Wilson*, 4376, 4377; Yangtze banks, W. China, *Wilson*, 4379.

HUPEH: Ichang, *Henry*, 2926; Chang-yang, *Henry*, 7689, *Wilson*, 2651; Mt. Omi, *Wilson*, 5120.

KWEICHOW: Ko-te-pang-kaou, *Esquirol*, 214; Kouy-yang, *Bodinier*, 2480.

YUNNAN: *Ducloux*, 266, 554; *Maire*, 313, 425, 647, 1293, 1582, 2030, 2344; mountains N. and S.E. of Mengtze, 5000–6500 ft., *Henry*, 9042, 9043, 9073, 9796, 9797, 9840, 10,071, 11,166, 11,266, 11,286; Mi-lê district, *Henry*, 10,071A, 10,072; Yuen-chang at 3500 ft., *Henry*, 11,576; Szemao, W. Mountains, at 5000 ft., *Henry*, 12,475; 12,581; Teng-yueh, *Howell*, 26; Yangtze Valley between Tzu-ko and Shih-ku at 6000–7000 ft., *Forrest*, 18; eastern flank of Tali range, *Forrest*, 6820; Yunnan-sen, *Bodinier*.

KWANGTUNG: Wong-yu, *Tate*; Lo-fou-shan at 3100 ft., *Ford*, 47; Lantao, *Dunn*; Lienchow River, *Matthew*.

8. *Plectranthus discolor*, Dunn in Notes Bot. Gard. Edin. xxxv, 155.

Flowers blue, August to October.

SZECHUEN: Min Valley, 4000–9000 ft., *Wilson*, 4321, 4322; between Ta-chien-lu and Chengtu, *Hosie*.

9. *Plectranthus leucophyllus*, Dunn in Notes Bot. Gard. Edin. xxxvii, 157.

Flowers, July to October.

SZECHUEN: Tung Valley, 1200 m., *Wilson*, 4319; between Ta-chien-lu and Chengtu, *Hosie*.

10. *Plectranthus rugosus*, Wall.; Fl. Brit. Ind. iv, 620.

Flowers white with rose or purple spots.

SZECHUEN: Ta-chien-lu, *Pratt*, 529.

11. *Plectranthus sculponiatus*, Van. in Bull. Acad. Géogr. Bot. xiv, 167.

Flowers very fragrant, blue or dull yellow, sometimes with a purple blotch on the lower lip, August to October. Moist valleys, pine woods.

KWEICHOW: Gan-pin, *Bodinier*, 1942.

YUNNAN: *Ducloux*, 220; *Maire*, 26, 400, 520, 1609, 2023, 2318; foot of mountains at Mengtze, *Hancock*, 430, *Henry*, 9235; Pu-erh at 4500 ft., *Henry*, 13,492; north of Tali-fu, 8000–

* In shady places the flowers are paler, the leaves larger and often more pubescent.

11,000 ft., *Forrest*, 597; eastern flank of Lichiang range, 9000–10,000 ft., *Forrest*, 6345; Tung valley, *Wilson*, 4387–88.

12. *Plectranthus excisus*, Maxim.; Mél. Biol. ix, 423.

P. racemosus,* Hemsl. in Journ. Linn. Soc. xxvi, 273.

Flowers yellow, red, or purple, July to October. Ditches.

SZETCHUEN: N. Wu-shan, *Henry*, 7049, *Wilson*, 4385; S. Wu-shan, *Henry*, 4855; Chang-yang, *Wilson*, 1682A.

HUPEH: Fang, *Wilson*, 2382, 2513, 2582, *Henry*, 6695, Patung, *Henry*, 2463, 7233; Tien-pong-scian at 1990 m., *Silvestri*, 2080; Ichang, *Henry*, 417.

13. *Plectranthus rubescens*, Hemsl. in Journ. Linn. Soc. xxvi, 273.

P. dichromophyllus, Diels in Engl. Jahrb. xxix, 562.

Flowers purple, August to October. Banks of streams.

HUPEH: Ichang, *Henry*, 974 (type).

SZETCHUEN: W. China at 5000 ft., *Wilson*, 4375; Nanchuan, *Rosthorn*, 1164; Lung-mo-ai, *Rosthorn*, 861.

14. *Plectranthus phyllopodus*, Diels in Notes Bot. Gard. Edin. xxv, 227.

P. leucanthus,† Diels in Notes Bot. Gard. Edin. xxv, 230.

Flowers blue or white, May to September. Mountain meadows and borders of pine forests.

YUNNAN: eastern flank of Tali range at 8000–11,000 ft., *Forrest*, 4555–56; hills of Yangtze-Mekong divide, 6000–10,000 ft., *Forrest*, 595.

15. *Plectranthus Henryi*, Hemsl. in Journ. Linn. Soc. xxvi, 271.

Flowers white with mauve dots.

HUPEH: Ichang, *Henry*, 2727, 2763, 3086, 3094.

16. *Plectranthus eriocalyx*, Dunn in Notes Bot. Gard. Edin. xxxvii, 155.

Flowers lavender-coloured, September and October. Sandy wastes.

SZETCHUEN: Mt. Omi, October 1904, *Wilson*, 5125.

YUNNAN: Valley of Yangtse, between Chi-tien and Chin-ho, elevation of 6000–7000 ft., October 1904, *Forrest*, 587; near Yunnan-sen, *Maire*, 1599, 2024, 2040; sandy wastes on mountains

* *P. racemosus*, Hemsl.: see note in Notes Bot. Gard. Edin. xxxvii, 158. This form is confined to C. China and can only be distinguished from *P. excisus*, Maxim., by its racemose flowers; its leaves are stalked or sessile, cuspidate or not, whereas in the latter they are always stalked and always cuspidate.

† *P. leucanthus*, Diels: the only difference observable in the type specimens of this and *P. phyllopodus*, Diels, is in the pubescence of the leaves.

near Mengtze, September 1893, 5500 ft., *Hancock*, 73; Mengtze at 4500 ft., *Henry*, 9811.

17. *Plectranthus Cavaleriei*, Lévillé in Fedde, Repert. Nov. Sp. ix, 247.

KWEICHOW: *Esquirol*, 834.

18. *Plectranthus glaucocalyx*, Maxim.; Mél. Biol. ix, 426.

Flowers lilac, August to September. Grassy places.

CHILI: Pekin, *Carles*, *Hemeling*, *Bretschneider*, 600, *Satow*; W. Hills, Pekin, *Carles*; Miao-fêng-shan, Pekin, W. Hills, *Hancock*, 75.

SHANTUNG: *Williamson*; I-tu-hsien, Ching-chou-fu, *Couling*, 73A; grassy slopes on Lou-Shan, Tsingtau, *Dunn*.

19. *Plectranthus Coetsa*, Ham.; Fl. Brit. Ind. iv, 619.

P. leptobotrys, Diels in Engl. Jahrb. xxix, 561.

Flowers reddish, bluish, or white, August to October. Grassy mountains, forests, and wooded cliffs.

SZCHUEN: W. China at 6000 ft., *Wilson*, 4380, 4384.

HUPEH: Ou-tan-schian, 2090 m., *Silvestri*, 2079; Nanto, *Henry*, 2983.

YUNNAN: Mengtze, N. and S.W. mountains at 6000–8000 ft., *Henry*, 10,075, 10,238, 10,073, 10,073A, 11,279, 13,774; Szemao, south forests at 5000 ft., *Henry*, 12,698.

20. *Plectranthus Rosthornii*, Diels in Engl. Jahrb. xxix, 562.

Flowers October.

SZCHUEN: Nanchuan, Tien-sheng-chiao, *Rosthorn*, 1122.

21. *Plectranthus ricinispermus*, Pamp. in Nuov. Giorn. Ital., 1910, 707.

Flowers pink, September to October.

HUPEH: Fang, *Wilson*, 1682; Patung, *Wilson*, 2819; Yu-koan-tin at 6000 ft., *Silvestri*, 2082, 2082A; Ou-tan-schian, *Silvestri*, 2083, 2083A, B.

SZCHUEN: Chang-yang, *Wilson*, 2652.

22. *Plectranthus adenanthus*, Diels in Notes Bot. Gard. Edin. xxv, 228.

Flowers purple or blue, May to August. Grassy slopes and pine woods.

SZCHUEN: W. China at 3000 ft., *Wilson*, 4574; Tung valley, *Wilson*, 4382.

YUNNAN: east of Tali range, 10,000–11,000 ft., *Forrest*, 4557; Mengtze, 6000–7000 ft., *Hancock*, 567, 5000 ft., *Henry*, 13,792, 10,067, 10,067A.

23. *Plectranthus irroratus*, G. Forrest ex Diels l.c. 228.
 Flowers blue, July. Stony pastures and dry shady places among undergrowth in pine forests.
 YUNNAN: eastern flank of Lichiang range, 9000–10,500 ft., *Forrest*, 2507, 6143.
24. *Plectranthus nervosus*, Hemsl. in Journ. Linn. Soc. xxvi, 272.
P. moslifolius, Léveillé in Fedde, Repert. Nov. Sp. ix, 247.
Teucrium Mairei, Léveillé.
 Flowers June to November.
 HUPEH: W. Hupeh, *Wilson*, 483A; Ichang, *Henry*, 992 (type), 1055 (type), 2725 (type); Patung, *Henry*, 5105 (type).
 KIANGSU: Shanghai, *Carles*, 347, *Maingay*, 658.
 KWEICHOW: Pin-fa, *Cavalerie*, 587.
 KWANGTUNG: N. River, *Ford*, 25 (type); Lienchow River, *Matthew*.
 YUNNAN: *Maire*, 1615, 2483.
25. *Plectranthus Forrestii*, Diels in Notes Bot. Gard. Edin. xxv, 229.
 Flowers blue, July to August. Open mountain meadows and grassy glades in pine forests.
 YUNNAN: eastern flank of Lichiang range, 11,000 ft., *Forrest*, 2851, 6243, 6462.
26. *Plectranthus amethystoides*, Benth.; Mél. Biol. ix, 424.
P. inflexus,* Vahl.
P. sinensis,† Miq. in Journ. de Bot. Néerl. i, 115.
 Flowers slaty blue, January to September. Rocky hills.
 SHANTUNG: Kiao-chow, *Zimmermann*; Wei-hai-wei, *Matthew*.
 CHEKIANG: Ningpo (Faber), *Hongkong Herb.* 333.
 FUKIEN: Foochow, *Carles*, 679.
 KIANGSI: Kewkiang, *Bullock*.
 KWANTUNG: Canton, *Sampson*, 202, *Hance*, 10,531;
 Fan-ling, Hongkong, *Tutcher*.
27. *Plectranthus pleiophyllus*, Diels in Notes Bot. Gard. Edin. xxv, 228.
 Flowers bright blue, June to August. Ledges of cliffs and dry stony pastures.

* *P. inflexus*, Vahl: this MS. name was taken up by Benthham in his Addendum to the Monograph of *Labiatae*, but appears to be inseparable from *P. amethystoides*.

† *P. sinensis*, Miq.: the description does not distinguish it from the rather variable *P. amethystoides*, Benth., which is frequent in the region in which Miquel's plant was gathered.

YUNNAN : eastern flank of Lichiang range, 9000–12,000 ft.,
Forrest, 2333, 6313, 6395, 6603.

28. *Plectranthus grosseserratus*, Dunn in Notes Bot. Gard.
 Edin. xxxvii, 154.

SZECHUEN : Wu-shan, *Wilson*, 1429.

29. *Plectranthus megathyrsus*, Diels in Notes Bot. Gard.
 Edin. xxv, 230.

Flowers pale purplish blue, September. Among scrub and
 grass.

YUNNAN : western slopes of Tsan-shan range, 9000–10,000
 ft., *Forrest*, 897.

30. *Plectranthus oreophilus*, Diels in Notes Bot. Gard. Edin.
 xxv, 227.

Flowers blue, July. Margins of pine forests.

YUNNAN : eastern flank of Lichiang range, 10,000–11,000 ft.,
Forrest, 2564, 6207.

31. *Plectranthus phyllostachys*, *Forrest* ex Diels in Notes
 Bot. Gard. Edin. xxv, 230.

Flowers a dirty yellow, September. Dry rocky situations,
 margins of forests.

YUNNAN : Hocking and Lichiang valley, 8000–12,000 ft.,
Forrest, 624, 6056, 6394.

32. *Plectranthus calcaratus*, Hemsl. in Hook. Ic. Pl. t. 2671.
 Flowers lilac.

YUNNAN : Szemao forest at 4500 ft., *Henry*, 12,339.

33. *Plectranthus macrocalyx*, Dunn in Notes Bot. Gard.
 Edin. xxxvii, 157.

Flowers, November.

CHEKIANG : *Hickin*.

FUKIEN : Foochow, *Carles*, 734.

9. *Coleus*, Lour. ; Fl. Brit. Ind. iv, 624.

- | | |
|--|---------------------------|
| 1. Lip of corolla 5 times longer than the tube | 2. |
| Lip 3 times the tube | 1. <i>Esquirolii</i> . |
| 2. Pubescent plant with papery leaves | 2. <i>bracteatus</i> . |
| Glabrous with succulent leaves | 3. <i>carnosifolius</i> . |

1. *Coleus Esquirolii*, Dunn in Notes Bot. Gard. Edin. xxxvii, 158.
Calamintha Esquirolii, Léveillé in Fedde, Repert. Nov. Sp.
 viii, 450.

Flowers lilac or purple, October to November. Rocks in shady places.

KWEICHOW : Shin-gny-hien, *Esquirol*, 1058 (type).

YUNNAN : Mengtze at 4600 ft., S.E. mountains at 4000-6000 ft., *Henry*, 9222, 9222A, *Hancock*, 235.

2. *Coleus bracteatus*, Dunn in Notes Bot. Gard. Edin. xxxvii, 158.

Flowers purple.

YUNNAN : Szemao, W. mountains at 5000 ft., *Henry*, 12,537 ; Pu-erh at 4500 ft., *Henry*, 13,498.

3. *Coleus carnosifolius*, Dunn in Notes Bot. Gard. Edin. xxxvii, 158.

Plectranthus carnosifolius, Hemsl. in Journ. Linn. Soc. xxvi, 269.

Flowers purple and white.

KWANGTUNG : N. River, *Ford*, 107.

10. *Anisochilus*, Wall. ; Fl. Brit. Ind. iv, 627.

Whole plant grey-strigose 1. *sinensis*.

Plant subglabrous 2. *pallidus*.

1. *Anisochilus sinensis*, Hance in Journ. Bot. 1885, 327.

Flowers, October.

HAINAN : Lam-ko, *B. C. Henry* (*Hance*, 22,207).

2. *Anisochilus pallidus*, Wall. ; Fl. Brit. Ind. iv, 629.

Flowers red.

YUNNAN : Szemao, south forests at 4000 ft., *Henry*, 12,675.

11. *Hyptis*, Jacq. ; Fl. Brit. Ind. iv, 630.

Hyptis suaveolens, Poit. ; Fl. Brit. Ind. iv, 630.

Flowers, March to December, blue. Salt marshes.

FUKIEN : Amoy, *Hance*, 1485.

KWANGTUNG : Chao-chau-fu, *Dalziel* ; Hongkong, *Ford*, 73 ; Swatow, *Dunn* ; Macao, *Hance*, 1485.

HAINAN : *Henry*, 8736.

12. *Pogostemon*, Desf. ; Fl. Br. Ind. iv, 631.

1. Leaves long-stalked ; calyx glabrous or with spreading hairs 2.

Leaves narrowed into very short stalks ; calyx with adpressed pubescence 1. *Dielsianus*.

2. Flowers black when dry ; lower calyx teeth
 setaceous 3.
 Flowers pale when dry ; calyx teeth all
 triangular 4.
3. Flower nearly twice as long as calyx 2. *fraternus*.
 Flower only slightly longer than the calyx 3. *nigrescens*.
4. Calyx nearly glabrous ; hairy part of filament
 exserted 4. *glaber*.
 Calyx hairy ; hairy part of filament included 5. *Championi*.

1. **Pogostemon Dielsianus**, Dunn in Notes Bot. Gard. Edin.
 xxxvii, 159.

Flowers rose, November. In scrub on dry rocky hill-
sides.

YUNNAN : Salween valley between Shih-chi-ti and Hsia-ku-ti,
Forrest, 875.

2. **Pogostemon fraternus**, Miq. ; Fl. Brit. Ind. iv, 635.

Flowers red. Damp sandy ground.

YUNNAN : Szemao forest at 4600 ft., *Henry*, 11,699.

3. **Pogostemon nigrescens**, Dunn in Notes Bot. Gard. Edin.
 xxxvii, 159.

Flowers red or purple. Shady woods.

YUNNAN : Mengtze, *Henry*, 9082 ; Feng-chen-lin, *Henry*,
11,174 ; Szemao, *Henry*, 12,563.

4. **Pogostemon glaber**, Benth. ; Fl. Brit. Ind. iv, 633.

Flowers white tinged with pink. Woods.

YUNNAN : Mengtze, *Henry*, 10,418, 11,487 ; Szemao at
4500-5000 ft., *Henry*, 12,832.

5. **Pogostemon Championi**, Prain in Kew Bull. 1908, 254.

Flowers pale purple.

P. parviflorus, Benth. in Fl. Hongkong. 275 (non alibi).

Flowers January.

KWANGTUNG : Hongkong, *Champion*, 339 ; Ha-hang, Hong-
kong New Territory, *Wong Kei* ; Lienchow River, *Matthew*.

13. **Dysophylla**, Blume ; Fl. Brit. Ind. iv, 637.

1. Leaves opposite 1. *auricularia*.
 Leaves verticillate 2.
2. Stem and leaves hirsute 2. *cruciata*.
 Stem and leaves glabrous or nearly so 3.

- | | |
|---|--------------------------|
| 3. Flower spike 5 mm. thick | 4. |
| Flower spike 12 mm. thick | 3. <i>linearis</i> . |
| 4. Leaves 3 in a whorl, oblong-lanceolate
obtuse | 4. <i>Sampsoni</i> . |
| Leaves 4-10 in a whorl, linear, acute | 5. <i>verticillata</i> . |

1. **Dysophylla auricularia**, Bl. ; Fl. Brit. Ind. iv, 638.

Flowers pink, January to August. Ditches.

YUNNAN : Szemao, 4500 ft., *Henry*, 12,311.

KWANGTUNG : Hongkong and neighbourhood, *Lamont*, 570, *Harland*, 468, *Champion* ; Lo-fou-shan at 1000 ft., *Ford*, 3 ; Wampoa, *Hance* ; Pakoi, *Playfair* ; Ha-hang, Hongkong New Territory, *Wong Kei*.

HAINAN : *Henry*, 8168.

2. **Dysophylla cruciata**, Benth. ; Fl. Brit. Ind. iv, 639.

HAINAN : *Carles*, 77, *Henry* ; Hoihow, *Hance*, 20,307.

3. **Dysophylla linearis**, Benth. ; Fl. Brit. Ind. iv, 639.

D. Martini, Van. in Bull. Acad. Géogr. Bot. xiv, 178.

Flowers pink to lavender, September. Wet places.

KWEICHOW : Tsin-tchen (Martin), *Bodinier*, 1946.

YUNNAN ; Szemao, 4500-5000 ft. *Henry*, 12,226 & A, 12,628.

4. **Dysophylla Sampsoni**, Hance in Ann. Sci. Nat., 5th. sér. v, 234.

Flowers August. Damp situations.

KWANGTUNG : Canton, *Sampson* (Hance, 10,946).

5. **Dysophylla verticillata**, Benth. ; Fl. Brit. Ind. iv, 639.

D. Esquirolii, Léveillé in Fedde, Repert. Nov. Sp. x, 476.

Flowers August, red. Ditches, padi fields.

KWEICHOW : Ten-chang, *Esquirol*, 155.

KWANGTUNG : Swatow, Tai-yong, *Dalziel* ; Canton, *Hance*, 11,448 ; Hoi-fung, *Lo Quai* ; Lienchow River, *Matthew*.

HAINAN : Tingan, *Katsumata*.

14. **Colebrookia**, Sm. ; Fl. Brit. Ind. iv, 642.

Colebrookia oppositifolia, Sm. ; Fl. Brit. Ind. iv, 642.

Flowers white, December. Grassy mountains.

YUNNAN : Shih-ping at 3000-4000 ft., *Henry*, 11,593, 11,593A, 11,593B ; Mengtze at 5500 ft., *Henry*, 10,921 ; Szemao at 4500 ft., *Henry*, 12,740 ; Red River forests, *Hancock*, 248.

15. *Elsholtzia*, Willd. ; Fl. Brit. Ind. iv, 642.

- | | |
|---|---------------------------|
| 1. Bracts linear or subulate | 2. |
| Bracts broad, blunt or acuminate | 12. |
| 2. Leaves white-tomentose beneath, rugose | 3. |
| Leaves not tomentose, flat | 4. |
| 3. Leaves abruptly acuminate below into a slender stalk | 1. <i>rugulosa</i> . |
| Leaves cuneate at the base, sessile ; raceme tail-like | 2. <i>Myosurus</i> . |
| 4. Leaves on slender petioles, rounded or shortly acuminate at base | 5. |
| Leaves sessile | 8. |
| 5. Leaves large ; plant shrubby large | 3. <i>flava</i> . |
| Leaves small ; humble annuals | 6. |
| 6. Flower spike slender, interrupted ; bracts subulate | 4. <i>incisa</i> . |
| Flower spike stout, continuous ; bracts linear | 7. |
| 7. Bracts strongly ciliate | 5. <i>pilosa</i> . |
| Bracts pubescent | 6. <i>communis</i> . |
| 8. Corolla tube 4 times as long as calyx | 9. |
| Corolla tube less than twice calyx | 10. |
| 9. Flowers 4-5 mm. long ; whole plant roughly hairy | 7. <i>polystachya</i> . |
| Flowers 9 mm. long ; whole plant, except the inflorescence, glabrous | 8. <i>Stauntoni</i> . |
| 10. Leaves nearly smooth above and almost glabrous beneath ; calyx teeth linear, contracted together in fruit | 11. |
| Leaves scabrous above, pubescent beneath ; calyx teeth short, triangular, open in fruit | 9. <i>ochroleuca</i> . |
| 11. Leaves gradually narrowed to the base ; calyx and corolla adpressed-pubescent | 10. <i>blanda</i> . |
| Leaves abruptly acuminate below ; calyx and corolla woolly | 7. <i>polystachya</i> . |
| 12. Leaves entire | 11. <i>integrifolia</i> . |
| Leaves crenate or serrate | 13. |
| 13. Leaves all linear or linear-lanceolate, sessile | 14. |
| Leaves ovate or stalked | 15. |
| 14. Stem tall, erect, simple ; bracts nearly glabrous, reticulate, truncate, a little retuse or shortly cuspidate | 12. <i>heterophylla</i> . |
| Stem branched or short and decumbent ; bracts woolly, rounded or conspicuously cuspidate | 20 |

- | | |
|---|--------------------------|
| 15. Spike unilateral; plant annual | 16. |
| Spike multifarious | 17. |
| 16. Flowers purple | 13. <i>cristata</i> . |
| Flowers yellow | 14. <i>luteola</i> . |
| 17. Leaves small, ovate; flower spike ovate | 15. <i>kachinensis</i> . |
| Leaves oblong or linear; spike cylindric, woolly | 18. |
| 18. Leaves nearly glabrous on both sides, serrate | 16. <i>ianthina</i> . |
| Leaves pubescent on both sides, crenate-serrate | 19. |
| 19. Calyx teeth reflexed in fruit | 17. <i>calycocarpa</i> . |
| Calyx teeth erect in fruit | 18. <i>eristachya</i> . |
| 20. Annual with one-sided spike of yellow flowers | 14. <i>luteola</i> . |
| Perennial with quadrifarious purple flowers | 19. <i>Bodinieri</i> . |

1. *Elsholtzia rugulosa*, Hemsl. in Journ. Linn. Soc. xxvi, 278.
E. Labordei, Vaniot in Bull. Acad. Géogr. Bot. xiv, 177.
Plectranthus Labordei, Diels in Notes Bot. Gard. Edin. xxxi, 47.

Flowers white, yellowish, or lavender, August to October.
 Dry grassy and stony pastures and woods.

KWEICHOW: Tsin-gay (Laborde), *Bodinier*, 2711.

YUNNAN: Yunnan-sen, *Maire*, 633, 1394, 1628, 2309, 2399; Luchang Hills, Salween-Irrawadi divide, *Forrest*, 1035; northern end of Lichiang valley at 9000 ft., *Forrest*, 6527; base of eastern flank of Tali range at 6700-8000 ft., *Forrest*, 6869; valley of Yangtze below Chu Tün at 7000-8000 ft., *Forrest*, 630; Mekong side of the Mekong-Salween divide, *Forrest*, 878; Pu-erh, *Bourne*, 34; Mengtze, 5000-6000 ft., *Hancock*, 410; Szemao at 4600 ft., *Henry*, 9912.

2. *Elsholtzia Myosurus*, Dunn in Notes Bot. Gard. Edin. xxxvii, 160.

Flowers dull yellow, August. Dry open places in scrub.

YUNNAN: Eastern flank of Tali range at 7000-8000 ft., *Forrest*, 7220.

3. *Elsholtzia flava*, Benth.; Fl. Brit. Ind. iv, 642.

Flowers fragrant, yellow to orange, May to September.
 Moist shady places.

SZETCHUEN: W. China at 4500 ft., *Wilson*, 4339.

CHEKIANG: *Hickin*.

YUNNAN: *Ducloux*, 520; Mengtze, north forests at 8000 ft., *Henry*, 10,239; among the hills in the neighbourhood of Yunnan-sen, *Maire*, 1778, 2036, 2171, 2174; eastern flank of

Lichiang range, 7000–9000 ft., *Forrest*, 4693, 6283; Yangtze valley above Na Le, 5000–8000 ft., *Forrest*, 523.

4. *Elsholtzia incisa*, Benth.; Fl. Brit. Ind. iv, 644.

Frequently recorded from S. China, but the voucher specimens seen by me prove to be *E. communis*, Diels.

5. *Elsholtzia pilosa*, Benth.; Fl. Brit. Ind. iv, 644.

Dysophylla Mairei, Lévillé.

Flowers white, pink, or lilac, September to October. Fields and dry pastures.

YUNNAN: *Ducloux*, 580; Tong-tchouan, 4500 m., *Maire*; Mengtze at 6000 ft., *Henry*, 9233, 9711; Yunnan-sen, *Maire*, 1204, 2035; Ming-kwang valley, 6000–7000 ft., *Forrest*, 947; northern end of Lichiang valley at 9000 ft., *Forrest*, 6680; Mekong at 6000–9000 ft., *Forrest*, 583, 588.

6. *Elsholtzia communis*, Diels in Notes Bot. Gard. Edin. xxxi, 47.

E. alopecuroides, Lévillé et Vaniot in Fedde, Repert. Nov. Sp. viii, 424.

Pogostemon Cypriani, Pamp. in Nuov. Giorn. Bot. Ital. 1910, 708.

Dysophylla communis, Coll. et Hemsl. in Journ. Linn. Soc. xxviii, 114.

Flowers pink or white, October. Waste ground, woods, and open grassy places on clay.

SHENSI: N. Shensi, *Giraldi*, 597.

HUPEH: Kao-tien-chan, *Silvestri*, 2085–88A; Nanto, *Henry*, 2889A; Ichang, *Henry*, 2889, 3272.

KWEICHOW: Pin-fa, *Cavalerie*, 1426.

YUNNAN: *Ducloux*, 509; common at 6000–11,000 ft. in all the valleys, *Forrest*, 628, 830, 831; Mengtze at 4600 ft., *Hancock*, 230, *Henry*, 9726; Mi-lê District, *Henry*, 9892; Yunnan-sen, *Maire*, 632, 1202, 1206, 1623.

7. *Elsholtzia polystachya*, Benth.; Fl. Brit. Ind. iv, 643.

E. tristis, Lévillé in Fedde, Repert. Nov. Sp. viii, 424.

E. Dielsii, Lévillé l.c. ix, 441.

E. Souliei, Lévillé l.c. ix, 248 (non 218).

Flowers yellow, pink, or white, July to October. Open shrubby pastures, dry stony ground, margins of pine forests.

CHILI: Zu-lu (Lan-yi-san Province), *Giraldi*; *Satow*.

SZECHUEN: Ta-chien-lu, *Soulié*, 781, *Hosie*; W. China, *Wilson*, 1299A, 4314.

HUPEH : Fang, *Henry*, 6755.

KWEICHOW : Kouy-yang, *Bodinier*, 1944.

YUNNAN : Yunnan-sen, *Maire*, 127, 634, 1235, 1300, 1637, 2173, 2310, 2602, 2604 ; *Ducloux*, 565 ; eastern flank of Tali range at 7000-9000 ft., *Forrest*, 4694, 4759 ; eastern flank of Lichiang range at 9000-11,000 ft., *Forrest*, 2681, 6333, 6549, 6617, 6718 ; Teng-yueh, *Howell*, 77 ; Mengtze at 5000-6000 ft., *Henry*, 6996, 11,305.

8. *Elsholtzia Stauntoni*, Benth. ; DC. Prodr. xii, 160.

Bot. Mag. t. 8460 (type).

Flowers September.

CHILI : mountain west of Peking, *Forbes* ; Nan-kau, *Williams* (Hance, 14,608) ; Peking, *Bretschneider*, 77.

9. *Elsholtzia ochroleuca*, Dunn in Notes Bot. Gard. Edin. xxxvii, 161.

Flowers pale yellow.

YUNNAN : Mengtze at 4700 ft., *Henry*, 9136.

10. *Elsholtzia blanda*, Benth. ; Fl. Brit. Ind. iv, 643.

Flowers white, fragrant.

YUNNAN : Mengtze at 5500 ft., *Henry*, 9250, 9250A, 10,070.

11. *Elsholtzia integrifolia*, Benth. Labiatae, 714.

CHILI : Jehol, *Staunton* (olim in *Herb. Banks*, Benth.).

12. *Elsholtzia heterophylla*, Diels in Notes Bot. Gard. Edin. xxv, 231.

Flowers pink. Open or wooded boggy ground.

YUNNAN : Mengtze, 5500-7000 ft., *Henry*, 9950A, 9950B, 10,305 ; Mi-lê District, *Henry*, 9950A ; Yunnan-sen, *Maire*, 1203, 1543, 2037 ; Ming-kwang valley north of Li-shih-toa-ho at 6000-7000 ft., *Forrest*, 934 ; eastern flank of Tali range at 8000-10,000 ft., *Forrest*, 7209.

13. *Elsholtzia cristata*, Willd. ; Fl. Brit. Ind. iv, 645.

E. Souliei, Lévêillé in Fedde, Repert. Nov. Sp. ix, 218 (not 248).

E. Argyi, Lévêillé l.c. viii, 425.

E. Feddei, Lévêillé l.c. ix, 218.

Flowers lilac, September to November. Stony pastures and cultivated fields.

SHENSI : Thiu-kio-tchien, *Giraldi*.

CHILI : Peking, *Hemeling*, *Bretschneider*, 576.

SHANTUNG : Chefoo, *Carles*, 343 ; *Bullock*, 343 ; Tsingtau, *Dunn*.

HUPEH: Chang-yang Mts., W. Hupeh, *Wilson*, 1745, 4364, 5717; Ichang, *Henry*, 135, 159, 955, 2674.

SZECHUEN: Tongolo, *Soulié*, 226-27; Ta-chien-lu, *Hosie*.

KIANGSU: Chusan, *Home*, *R. Brown*; Shanghai, *Carles*, 406; Sio-le-kiao, *d'Argy*.

CHEKIANG: Ningpo, *Home*.

KIANGSI: Kewkiang, *Carles*, *Hickin*.

KWEICHOW: Pin-fa, *Cavalerie*.

YUNNAN: eastern flank of Lichiang range at 9000-10,000 ft., *Forrest*, 6699; abundant in Mekong and Yangtze valleys, 5000-11,000 ft., *Forrest*, 622; Yunnan-sen, *Maire*, 1205, 1640, 1762, 2317, 2494.

KWANGTUNG: Lienchau River, *B. C. Henry*.

14. *Elsholtzia luteola*, Diels in Notes Bot. Gard. Edin. xxv, 232.

Flowers pale yellow, September. Moist ground.

YUNNAN: Ching-tun plateau, 12,000-13,000 ft., *Forrest*, 625.

15. *Elsholtzia kachinensis*, Prain in Journ. As. Soc. Beng. lxxiii, 206.

Flowers purple, July to October. Marshy stony ground.

YUNNAN: *Ducloux*, 510; Yunnan-sen, *Maire*, 1624; Szemao, E. Mts. at 5000 ft., *Henry*, 12,670; Ming-kwang Valley north of Machung at 6000-7000 ft., *Forrest*, 946; Lichiang valley at 8500 ft., *Forrest*, 6729; eastern flank of Tali range at 7000-9000 ft., *Forrest*, 7042, 7195; Tali-fu and Ting-chuan valleys at 6500-8000 ft., *Forrest*, 585.

16. *Elsholtzia ianthina*, Dunn.

Dysophylla ianthina, Maxim. ex Kanitz Növquyt. gyujtesek prof. Szeckenyi (1891) 46.

Flowers June to August. Wet meadows or shallow water.

KANSU: south of Tetuaz River, *Przewalski*, 387; foot of northern ridge, *Przewalski*, 96.

17. *Elsholtzia calycocarpa*, Diels in Engl. Jahrb. xxix, 560.

Flowers July.

SZECHUEN: Tsa-ku-lao, *Rosthorn*, 2543.

18. *Elsholtzia eriostachya*, Benth.; Fl. Brit. Ind. iv, 645.

Flowers yellow.

KANSU: *H. F. Ridley*.

SZECHUEN: Tongolo, *Soulié*, 375; Ta-chien-lu, *Soulié*, 93; *Pratt*, 884.

19. *Elsholtzia Bodinieri*, Vaniot in Bull. Acad. Géogr. Bot. xiv, 176.

Flowers rose-lavender, September to November. Exposed rocky places.

YUNNAN: Yunnan-sen, *Bodinier*, 2547; *Maire*, 1542, 2396; Yuan-chang at 5000 ft., *Henry*, 9368B; Mengtze at 6000 ft., *Henry*, 9368, 9368A; summit of Sung-kwei pass at 11,000–12,000 ft., *Forrest*, 7371; mountains west of Tali-fu at 9000 ft., *Forrest*, 586; eastern flank of Lichiang range at 9000–10,500 ft., *Forrest*, 2997.

16. *Keiskia*, Miq. in Ann. Mus. Bot. Lugd. Bot. ii, 105.

Keiskia japonica, Miq. l.c.

KIANGSU: recorded there by Hemsl. in Journ. Linn. Soc. xxvi, 279.

17. *Hancea*, Hemsl.* in Journ. Linn. Soc. xxvi, 309.

- | | |
|--|------------------------|
| 1. Corolla tube expanded at middle to 4 times
its width below | 1. <i>sinensis</i> . |
| Corolla tube cylindric | 2. |
| 2. Corolla tube 1.3 cm. long | 2. <i>nudipes</i> . |
| Corolla tube 2.4 cm. long | 3. <i>Cavaleriei</i> . |

1. *Hancea sinensis*, Hemsl. in Journ. Linn. Soc. xxvi, 310, t. 6.
Flowers dark purple, July.

SZCHUEN: Ta-chien-lu, *Pratt*, 152; Omi, *Faber*, 666, 681 (types), *Wilson*, 5124, 5132; W. China, *Wilson*, 4373 (4000 ft.).

YUNNAN: Mengtze, S.E. Mts., *Henry*, 9196.

2. *Hancea nudipes*, Dunn in Notes Bot. Gard. Edin. xxxvii, 170.

Plectranthus nudipes, Hemsl. in Journ. Linn. Soc. xxvi, 272.

SZCHUEN: N. Wushan, *Henry*, 7037; Kuan-shien Mts. at 5000 ft. (50 miles north-west of Chengtu), *Fergusson*.

3. *Hancea Cavaleriei*, Léveillé in Fedde, Repert. Nov. Sp. ix, 224.

* The position of *Hancea* next to *Keiskia* in the *Saturineae* instead of in the place (*Prasieae*), suggested by its author, Hemsley, requires explanation. When established by that author its fruit was unknown and, *Prasieae* and *Saturineae* not being entirely distinguishable except by the characters of the nutlets, he doubtfully placed it in the former. Ripe fruits having now been received from Léveillé, and the nutlets proving to be naturally quite dry, it may be placed in *Saturineae* as Léveillé himself suggested to me. It is only distinguished from *Plectranthus* by the expansion of its corolla into a limb of five flat lobes, by the divaricate, not declinate, stamens. A certain accommodation of species is necessary in consequence of this unexpected affinity. *Plectranthus nudipes*, Hemsl., is here transferred to *Hancea*, *Hancea Hemsleyana* and *Prainiana*, Léveillé, to *Plectranthus*.

18. *Perilla*, Linn. ; Fl. Brit. Ind. iv, 646.

- | | |
|---|-------------------------|
| 1. Whole plant shaggy | 1. <i>ocymoides</i> . |
| Plant glabrous or pubescent | 2. |
| 2. Calyx 1.1–1.3 cm. long ; seeds white | 2. <i>avium</i> . |
| Calyx 6–7 mm. long ; seeds reddish | 3. <i>nankinensis</i> . |

1. *Perilla ocymoides*, Linn. ; Fl. Brit. Ind. iv, 646.

Flowers white.

HUPEH : Henry, 4455, 4971.

2. *Perilla avium*, Dunn in Notes Bot. Gard. Edin. xxxvii, 161.

Flowers white, October. Cultivated.

CHILI : Pekin, *Bretschneider*, 577, *Carles*, 140.FUKIEN : Foochow, *Carles*, 733.YUNNAN : S.W. China, *Bourne*, 2 ; Salween and Irrawadi basins, *Forrest*, 871 ; Yunnan-sen, *Maire*, 25, 734, 2614.KWANGTUNG : Swatow, *Dunn*.3. *Perilla nankinensis*, Decne. in Rev. Hort. 1852, 61.*P. arguta*, Benth. Fl. Hongk. 276.*P. Cavaleriei*, Léveillé in Fedde, Repert. Nov. Sp. viii, 424.

Flowers pink, April to September. Waste ground.

CHILI : Pekin to Jehol, *Staunton*.HUPEH : Henry, 4356 ; Hokiang, Henry, 692 ; S. Wu-shan, *Wilson*, 2659 ; Ichang, Henry, 459, 1050, 2607, 3023, 2258A.KIANGSU : Shanghai Hills, *Carles*, 15.CHEKIANG : *Hickin*.FUKIEN : Foochow, *Carles*, 15.KWEICHOW : Tsin-gay, *Cavalerie*, 2709, 2710.KIANGSI : Lungchow, *Morse*, 520.KWANTUNG : Hongkong, *Forbes*, *Faber*, *Carles*, 348, *Main-gay*, 536, 537, *Hance* ; Macao, *Callery*, 158 ; Canton, *Hance*, 6546 ; Lantao, *Dunn*.19. *Mosla*, Ham. ; Fl. Brit. Ind. iv, 646.

- | | |
|--|------------------------|
| 1. Flowers within large bracts | 1. <i>chinensis</i> . |
| Flowers bare | 2. |
| 2. Seeds reticulate | 3. |
| Seeds opaque smooth ; leaves long-stalked | |
| ovate, crenate-dentate : seeds spherical, | |
| opaque | 2. <i>Cavaleriei</i> . |
| 3. Seeds closely reticulate, deeply pitted | 3. <i>lanceolata</i> . |
| Seeds loosely reticulate, flat | 4. <i>dianthera</i> . |

1. *Mosla chinensis*, Maxim. in Mél. Biol. xi, 805; Dunn in Notes Bot. Gard. Edin. xxxvii, 162.
M. Fordii, Maxim. in Mél. Biol. xii, 525.
Calamintha clipeata, Vaniot in Bull. Acad. Géogr. Bot. xiv, 184.
 Flowers June to September.
 HUPEH: Ichang, *Henry*, 2240, 4325.
 CHEKIANG: *Hickin*.
 FUKIEN: Foochow, *Carles*, 725.
 KWEICHOW: near Lau-shan, *Bodinier*, 2669.
 KWANGTUNG: Lienchow River, *Hongkong Herb.*, 1333;
 Wong-lun-kun, Lo-fou-shan, 3100 ft., *Ford*.
2. *Mosla Cavaleriei*, Léveillé in Fedde, Repert. Nov. Sp. ix, 247.*
 Flowers rose, September. Stream banks.
 KWEICHOW: Pin-fa, *Cavalerie*, 530.
3. *Mosla lanceolata*, Maxim. in Mél. Biol. ix, 434.
M. Argyi, Léveillé in Fedde, Repert. Nov. Sp. ix, 248.
Calamintha Argyi, Léveillé l.c. viii, 423.
 Flowers purple, September to October. Fields.
 HUPEH: Patung, Nanto, Ichang, *Henry*, 61, 2319, 2560, 2609, 2790, 4812, 4895-97, 5017, 7376.
 SHANTUNG: Tsingtau, *Zimmermann*.
 KIANGSU: hills near Shanghai, *Carles*, 225.
 CHEKIANG: *Hickin*; Ningpo, *Faber*, 61, 81, 334, 1710.
 FUKIEN: Amoy, *Hance*, 1484 (type); Foochow, *Carles*, 772.
 KIANGSI: Kewkiang, City Wall, *Carles*, 226; *Shearer*;
 Lushan, *Bullock*, 62.
 Kiangsu: Sin-kia-wei, Souo-se, d'Argy.
 KWANGTUNG: Whampoa, *Hance*, 1484 (type); Danes' Island, *W. Brown*; Swatow, *Dunn*; Hongkong, *Wright*, 492;
 Lo-fou-shan, *Ford*, 30; Sze-se-shan, *Wong Kei*.
4. *Mosla dianthera*, Maxim. in Mél. Biol. ix, 431; Dunn in Notes Bot. Gard. Edin. xxxvii, 162.
M. soochouensis, Matsuda?
M. punctata, Maxim. in Mél. Biol. ix, 436.
 Flowers pink, August to September. Roadsides.
 SHANTUNG: Chefoo, *Faber*, 116.
 HUPEH: Ichang, *Henry*, 865, 2274, 2489, 2742; Kiating, *Wilson*, 4378.

* *Mosla Cavaleriei*, Léveillé.—Diagnosis amplificata: Herba gracilis, caule sparse hirsuto. Folia ovata, acuta, basi breviter acuminata, 3-4 cm. longa, papyracea, utrinque sparse hirsuta, serrata, petiolo lamina paullo brevior. Racemi terminales axillaresque, 5-7 cm. longi, 1 cm. lati, omnino hirsutuli. Flores oppositi, singuli bracteaeque lineares 2 mm. longi; pedicelli calyci aequilongi. Calyx campanulatus, 1 mm. longus; dentes lineares tubo longiores. Corolla cylindrica, calyce bis longior, apice summo breviter lobata. Stamina duo, inclusa. Styli paullo exserti. Nuculae sphaericae, opacae, 0.3 mm. diametro.

KIANGSU : Shanghai, *Carles*, *Maingay*, 534.

FUKIEN : Foochow, *Carles*, 736.

KWANGTUNG : Lo-fou-shan at 3100 ft., *Ford*, 40 ; *Hance*, 22,288 ; Swatow, Thaiyong, *Dalziel* ; Kwai-sin, *Lo Quai* ; Lienchow River, *Matthew* ; Ma-lo-tong, *Tutcher*.

20. *Mentha*, Linn. ; Fl. Brit. Ind. iv, 647.

Flowers in short terminal racemes 1. *Malinvaldi*.
Flowers in axillary whorls 2. *arvensis*.

1. *Mentha Malinvaldi*, Léveillé in Fedde, Repert. Nov. Sp. iii, 21.
Flowers October. Stream sides.
KWEICHOW : Tin-fan, *Cavalerie*, 1933.

2. *Mentha arvensis*, Linn. ; Fl. Brit. Ind. iv, 648.
Flowers lavender, September and October. Ditches and marsh-edges.

CHILI : Pekin, *Bretschneider*, 578-79.

SHANTUNG : Ching-chou-fu, *Couling*.

SHENSI : *Giraldi*.

SZECHUEN : *Henry*, 7210.

HUPEH : Nanto, *Henry*, 2637, 2735 ; Ichang, *Henry*, 66, 72 ;
W. Hupeh, *Wilson*, 2528A.

KIANGSU : Shanghai, *Maingay*, 539, *Carles*.

FUKIEN : Foochow, *Carles*, 690.

YUNNAN : *Duclox*, 208 ; eastern flank of Lichiang range at 9000 ft., *Forrest*, 2559 ; Lichiang valley, *Forrest*, 2560 ; Tali valley, *Forrest*, 4531 ; base of eastern flank of Tali range, *Forrest*, 6897 ; Mengtze at 4500 ft., *Henry*, 10,428, 10,428A ; Szemao, W. Mts., *Henry*, 10,428B ; Yunnan-sen, *Maire*, 923.

KWANGTUNG : Hongkong, Saiwan, *Hance*, 2982 ; Kwai-sin, *Lo Quai* ; Sun Wai, *Tutcher*.

21. *Lycopus*, Tourn. ; Fl. Brit. Ind. iv, 648.

Leaf-serrations acuminate, pungent 1. *lucidus*.
Leaf-serrations blunt 2. *europaeus*.

1. *Lycopus lucidus*, Linn. ; DC. Prodr. xii, 178.

Flowers July. Water sides.

CHILI : Pekin, *Bretschneider*, 598 ; Staunton.

SHANTUNG : Wei-hai-wei, *Dunn*.

HUPEH : *Henry*, 5197 ; Patung, *Henry*, 4597 ; W. Hupeh, *Wilson*, 1537.

KIANGSU : Shanghai, *Faber*.

YUNNAN : Yunnan-sen, *Maire*, 657, 1220, 1877, 2527 ;
Mengtze, rare, *Hancock*, 207 ; Szemao, *Henry*, 12,618.

KWANGTUNG : Kwai-sin, *Lo Quai*.

2. *Lycopus europaeus*, Linn. ; Fl. Brit. Ind. iv, 648.*L. Cavaleriei*, Léveillé in Fedde, Repert. Nov. Sp. viii, 423.

Flowers bluish white, August.

CHILI : Pekin, *Bretschneider*, 583.KWEICHOW : Tou-an-gué, *Cavalerie*, 2480.22. *Origanum*, Tourn. ; Fl. Brit. Ind. iv, 648.*Origanum vulgare*, Linn. ; Fl. Brit. Ind. iv, 648.

Flowers pink, July to October. Dry grassy places.

SHENSI : *Giraldi*.SZECHUEN : Ta-tsien-lu, *Pratt*, 604, *Hosie*.HUPEH : *Henry*, 623 ; Ichang, *Henry*, 2140, 2414 ; Hankow, *Carles* ; W. Hupeh, *Wilson*, 1529 ; *Silvestri*, 2060.KIANGSU : Chinkiang, *Carles*, 478.CHEKIANG : *Barchet* ; Wenchow, *Bowring*.KIANGSI : *David* ; Kewkiang, *Shearer*.YUNNAN : Lichiang range at 8200 ft., *Forrest*, 2528 ; eastern flank of Tali range at 7000-9000 ft., *Forrest*, 4532 ; base of eastern flank of Lichiang range at 8000-9000 ft., *Forrest*, 5767 ; Mengtze, *Henry*, 11,137, *Hancock*, 209 ; Yunnan-sen, *Maire*, 314, 1590, 2692.23. *Thymus*, Linn. ; Fl. Brit. Ind. iv, 649.*Thymus Serpyllum*, Linn. ; Fl. Brit. Ind. iv, 649.

Flowers whitish, June to September. Grassy slopes.

CHILI : (Pierson), *Hance*, 7103.SHANTUNG : Chefoo hillsides, *Carles*, 333, *Williamson*, *Maingay*, 46 ; Wei-hai-wei, *Matthew Dunn*.24. *Micromeria*, Benth. ; Fl. Brit. Ind. iv, 649.*Micromeria biflora*, Benth. ; Fl. Brit. Ind. iv, 650.*Thymus Cavaleriei*, Léveillé in Fedde, Repert. Nov. Sp. xi, 298.

Flowers rose, June. Sandy hills.

KWEICHOW : Tin-lan, *Cavalerie*, 3778.YUNNAN : Yunnan-sen, *Maire*, 1843.25. *Calamintha*, Moench. ; Fl. Brit. Ind. iv, 650.

Bracts minute

1. *gracilis*.Bracts varying from the length of the pedicel
to the length of pedicel and flower
together.2. *Clinopodium*.

1. *Calamintha gracilis*, Benth. in DC. Prodr. xii, 232.*C. confinis*, Hance in Journ. Bot. 1868, 331.*C. radicans*, Van. in Bull. Acad. Géogr. Bot. xiv, 18.

Flowers lilac or pink, April to September. Dry grassy or waste places.

SHANTUNG: *Faber*, 304.SZECHUEN: Chien-shi, W. China, *Wilson*, 911.HUPÉH: *Henry*, 1957; Ichang, *Henry*, 252, 1198.KIANGSU: Shanghai, *Carles*, 354.FUKIEN: Foochow, *Carles*, 611; Yuen-ki, *Dunn*.YUNNAN: *Ducloux*, 8.KWEICHOW: Hoang-ko-chou (*Seguin*), *Bodinier*.KWANGTUNG: Chaochoufu, *Dalziel*, *Dunn*; Sai-chu-shan (Sampson), *Hance*, 13,045; Hongkong, Peak District common, *Dunn*, *Ford*, 145; Pakwan, *Hance*, 7489; Hongkong, Victoria Peak, *Bodinier*, 1131.2. *Calamintha Clinopodium*, Benth.Key to Varieties of *C. Clinopodium*.

- | | |
|---|---------------------------|
| 1. Bracts as long as the calyx | 2. |
| Bracts shorter than the calyx | 3. |
| 2. Leaves medium in size | var. <i>typica</i> . |
| Leaves large | var. <i>discolor</i> . |
| 3. Bracts from half as long to nearly as long as the calyx | 4. |
| Bracts less than half the calyx | 6. |
| 4. Stem creeping; bracts few | var. <i>repens</i> . |
| Stem erect or ascending | 5. |
| 5. Flowers large, twice as long as the calyx; hairs spreading | var. <i>megalantha</i> . |
| Flowers small; bracts few; hairs deflexed | var. <i>chinensis</i> . |
| 6. Leaves large | var. <i>pratensis</i> . |
| Leaves small | 7. |
| 7. Stem branched erect; hairs spreading | 8. |
| Stem decumbent; bracts few; flowers small | var. <i>umbrosa</i> . |
| 8. Heads small, numerous | var. <i>polycephala</i> . |
| Heads few | var. <i>nepalensis</i> . |

var. *typica*.*Calamintha Clinopodium*, Benth.; Fl. Brit. Ind. iv, 650.

Flowers pink. Grassy places.

YUNNAN: Mengtze at 5000 ft., *Henry*, 9231A; N.W. Yunnan, *Monbeig*, 214.

var. **discolor.**

Calamintha discolor, Diels in Notes Bot. Gard. Edin. xxv, 232.

Flowers pale rose-purple, June and July. Grassy open glades in forests.

HUPEH : Changyang, *Wilson*, 2512.

YUNNAN : south of Red River from Manmer at 6000 ft., *Henry*, 9766 ; eastern flank of Tali range at 9000-10,000 ft., *Forrest*, 4527 (type).

var. **repens.**

Calamintha repens, Benth. ; DC. Prodr. xii, 233.

Flowers, June.

SZECHUEN : Mt. Omi, *Wilson*, 5133.

var. **megalantha.**

Calamintha chinensis, var. *megalantha*, Diels in Notes Bot. Gard. Edin. xxv, 233.

Flowers rose, June to August. Open ground.

YUNNAN : eastern flank of Lichiang range at 10,000-11,000 ft., *Forrest*, 6322, *Forrest*, 2476 (type).

var. **chinensis.**

Calamintha chinensis, Benth. in DC. Prodr. xii, 233.

Flowers pink, May to November. Waste fields and grassy places.

CHILI : Peiling, *Pekin*, *Webster* ; *Pekin*, *Bretschneider*, 585.

SHANTUNG : Maingay, 45 ; Wei-hai-wei, *Matthew*.

HUPEH : W. Hupeh, *Wilson*, 810.

CHEKIANG : *Barchet*.

KIANGSI : Shanghai, *Faber*.

FUKIEN : Amoy, *Hance*, 7581.

YUNNAN : near Mengtze at 5000 ft., *Henry*, 9231 ; Yunnan-sen, *Maire*, 777, 1471, 1759, 1299 ; eastern flank of Lichiang range at 9000-10,500 ft., *Forrest*, 2309.

KWANGTUNG : North River, *Hance*, 7581.

HAINAN : *Katsumata*.

var. **pratensis**, Dunn.

HUPEH : Ichang and Patung, *Henry*, 1333, 1830A, 4916.

var. **umbrosa.**

C. umbrosa, Benth. in DC. Prodr. xii, 232.

C. tsacapanensis, Léveillé in Fedde, Repert. Nov. Sp. viii, 423.

Melissa umbrosa, Bieb.

Flowers rose to purple, May to July. Stony and grassy ground.

HUPEH: Henry, 943, 3661; Ichang, Henry, 757, 1013, 2778; Hankow, Carles.

KIANGSU: Shanghai, Carles, 355; Tsacapan, d'Argy.

FUKIEN: Amoy at 1700–1800 ft., Hance, 1483; Foochow, Carles, Dunn.

YUNNAN: Mengtze at 5000 ft., Henry, 11,824; eastern flank of Lichiang range at 9000–10,500 ft., Forrest, 2309A; Tali valley at 6700–8000 ft., Forrest, 4528; eastern flank of Tali range at 7000–9000 ft., Forrest, 4522; Yunnan-sen, Maire, 778, 2042, 2187, 2303, 2694.

KWANGTUNG: Swatow, Thai-yong, Dalziel.

var. **polycephala**.

Calamintha polycephala, Vaniot in Bull. Acad. Géogr. Bot. xiv, 183.

Flowers pink, September. Hedges.

KWEICHOW: Gan-pin, Bodinier, 1941.

YUNNAN: common on Mekong-Yangtze divide at 10,000 ft., Forrest, 584.

var. **nepalensis**.

Melissa nepalensis, Benth.

Flowers rose, August. Dry stony places.

HUPEH: Ichang, Patung, Henry, 3661, 4841.

YUNNAN: Momien, Anderson; eastern flank of Tali range at 7000–8000 ft., Forrest, 4529.

26. **Melissa**, Linn.; Fl. Brit. Ind. iv, 651.

Melissa parviflora, Benth.; Fl. Brit. Ind. iv, 651.

Calamintha Cavaleriei, Léveillé in Fedde, Repert. Nov. Sp. viii, 424.

Flowers rose-purple to whitish, July to August. Open stony or bushy ground.

HUPEH: Omi-shan, Wilson, 5130.

KWEICHOW: Pin-fa, Cavalerie, 488, 3055.

YUNNAN: Tali range at 6700–8000 ft., Forrest, 4538, 7286; Yunnan-sen, Maire, 780, 2158, 2651, Ducloux, 116; Mengtze, forests to north at 8000 ft., Henry, 10,214, 10,214A.

27. **Salvia**, Linn.; Fl. Brit. Ind. iv, 653.

- | | |
|-------------------|-----|
| 1. Flowers large | 2. |
| Flowers small | 18. |
| 2. Leaves pinnate | 3. |
| Leaves simple | 6. |

3. Exserted part of corolla tube longer than the lobes 1. *trijuga*.
Exserted part shorter than the lobes 4.
4. Terminal leaflet similar in shape to the side ones, less than twice as long 5.
Terminal leaflet linear-oblong, more than 3 times as long as the side ones 2. *yunnanensis*.
5. Upper lip of blue corolla straight; leaflets at least 7 in number; calyx cylindric, 3-4 times longer than broad 3. *Bowleyana*.
Upper lip of yellow or blue corolla hooded; leaflets at most 5 or very rarely 7; calyx campanulate, not twice as long as broad 4. *miltiorrhiza*.
6. Corolla tube cylindric or gradually wider above calyx 7.
Corolla tube suddenly enlarged above the calyx 15.
7. Most of the leaves widely hastate 8.
Leaves not widely hastate 9.
8. Corolla tube $\frac{1}{2}$ longer than calyx 5. *Roborowskii*.
Corolla tube 2-3 times calyx 6. *tricuspis*.
9. Leaves round in outline 10.
Leaves oblong, cordate or sagittate 12.
10. Corolla tube less than twice as long as the campanulate calyx 7. *campanulata*.
Corolla tube 2-3 times the calyx 11.
11. Calyx cylindric, half the corolla tube 8. *cynica*.
Calyx campanulate, one-third of corolla tube 9. *Maximowicziana*.
12. Flowers in dense verticils subtended by large bracts 10. *hians*.
Flowers fewer and bracts small 13.
13. Leaves tomentose beneath 11. *Przewalskii*.
Leaves pubescent beneath 14.
14. Calyx cylindric; leaves truncate at base 12. *glutinosa*.
Calyx campanulate; leaves sagittate 13. *brevilabra*.
15. Leaves white-silky tomentose beneath, elliptic 14. *digitaloides*.
Leaves not tomentose beneath; hastate or cordate 16.
16. Calyx cylindric, as long as the exserted part of corolla tube 15. *umbratica*.
Calyx campanulate, half as long as exserted part of corolla tube 17.
17. Upper leaves truncate or sagittate at base 16. *Bulleyana*.
Upper leaves cuneate at base 17. *castanea*.

18. Leaves lanceolate narrowed to a short petiole; flowers under 1 cm. in a dense terminal panicle 19. *japonica*.
 Leaves pinnate or cordate; flowers over 1 cm. in long interrupted racemes 18. *plebeia*.

1. ***Salvia trijuga***, Diels in Notes Bot. Gard. Edin. xxv, 237.

Flowers deep lavender, September. Dry open places.

YUNNAN: Lichiang valley at 8500 ft., *Forrest*, 65, 2813, 6562.

2. ***Salvia yunnanensis***, C. H. Wright in Kew Bull. 1896, 164.

S. Bodinieri, Vaniot in Bull. Acad. Géogr. Bot. xiv, 191.

S. Esquirolii, Léveillé in Fedde, Repert. Nov. Sp. viii, 421.

Flowers violet, blue, or purple, August. Exposed rocky slopes.

KWEICHOW: Hin-y-hien Mountain, *Bodinier*, 1504. Lung-chen-po, *Esquirol*, 572.

YUNNAN: *Ducloux*, 159; Tali range, *Forrest*, 2047, 4543, 7248; Yunnan-sen, *Maire*, 217, 1294, 2220, 2266, 2661, 7248; S.W. Mentze at 4600-6500 ft., *Hancock*, 61 (type), *Henry*, 10,053.

3. ***Salvia Bowleyana***, Dunn in Journ. Linn. Soc. xxxviii, 363.

Flowers blue, June to November. Grassy places along rivers.

FUKIEN: Yuen-fu River, *Carles*, *Dunn*.

4. ***Salvia miltiorrhiza***, Bunge; Mél. Biol. xi, 304.

S. pogonocalyx, Hance in Journ. Linn. Soc. xiii, 85.

S. anomala, Vaniot in Bull. Acad. Géogr. Bot. xiv, 190.

S. Charbonnetii, Léveillé in Fedde, Repert. Nov. Sp. ix, 220.

Flowers blue, rose, or yellow, May to August. Cultivated fields and grassy places.

CHILI: Fuping, *Chanet*, 546; Ming tombs, *Bodinier*, 144; Pekin, *Satow*, *Hemeling*, *Forbes*, *Hance*, 6514, 11,432, *Bretschneider*, 586, *Hancock*, 44, *Bushell*; Pekin Hills, *Carles*, 159; Great Wall at Tanghai, *Sandilands*.

SHANTUNG: *Carles*; Chefoo, *Perry*, *Swinhoe*; Kiaochau, *Dunn*.

HUPEH: Ichang, *Henry*, 488, 1347, 1997; W. Hupeh, *Wilson*, 402.

GANWHAI: Wuhu, *Carles*.

CHEKIANG: *Barchet*.

KIANGSU: Shanghai, *Carles*, 160.

KIANGSI: Kiukiang, *Shearer*, *Forbes*.

KWEICHOW: Tong-chang, *Esquirol*.

5. *Salvia Roborowskii*, Maxim. ; Mél. Biol. xi, 302.
KANSU : *Przewalski*.
6. *Salvia tricuspis*, Franch. in Bull. Soc. Phil. Par. sér. 8, iii, 150.
S. Marretii, Léveillé in Fedde, Repert. Nov. Sp. ix, 220.
Flowers pale yellow or pink. Cultivated fields.
SZECHUEN : Ta-chien-lu, *Soulié* (type), 627 ; Tongolo, *Soulié*, 238 ; W. China at 8500 ft., *Wilson*, 4346-47.
7. *Salvia campanulata*, Wall. ; Fl. Brit. Ind. iv, 654.
S. hylocharis, Diels in Notes Bot. Gard. Edin. xxv, 236.
S. Forrestii, Diels l.c. 235.
Flowers orange, June to August. Alpine meadows and open glades in forests.
YUNNAN : Lichiang and Tali ranges at 9000-12,000 ft., *Forrest*, 2394, 4548, 5678.
8. *Salvia cynica*, Dunn in Notes Bot. Gard. Edin. xxxvii, 164.
SZECHUEN : Ta-chien-lu, *Pratt*, 71 ; Wu-shan at 6500 ft., *Wilson*, 4342.
9. *Salvia Maximowicziana*, Hemsl. in Journ. Linn. Soc. xxvi, 285.
S. Fargesii, Léveillé in Fedde, Repert. Nov. Sp. ix, 220.
Flowers yellow, white, or purple, July to August.
SZECHUEN : O-mi-shan at 6000 ft., *Henry*, 672, *Wilson*, 4343, 5126 ; Tchen-kéou-tin, *Farges*, 31.
HUPEH : *Henry*, 6822 ; Fang, *Henry*, 6864 (type), *Wilson*, 1688, 2349, 2399.
10. *Salvia hians*, Royle ; Fl. Brit. Ind. iv, 653.
S. Prattii, Hemsl. in Journ. Linn. Soc. xxiv, 316.
S. Souliei, Léveillé in Fedde, Repert. Nov. Sp. ix, 219.
Flowers purplish-rose, June to September. Rocks and stony pastures.
SZECHUEN : Ta-chien-lu, *Soulié*, 600, *Pratt*, 491, 546 ; Tongolo, *Soulié*, 300.
YUNNAN : Tse-kou, *Monbeig* ; eastern flank of Lichiang range at 11,000-14,000 ft., *Forrest*, 2919, 5754, 5811, 5970.
11. *Salvia Przewalskii*, Maxim. ; Mél. Biol. xi, 301.
S. mandarinorum, Diels in Engl. Jahrb. xxix, 557.
S. tibetica, Léveillé in Fedde, Repert. Nov. Sp. ix, 219.

- S. tatsiensis*, Franch. in Bull. Soc. Philom. Par. sér. 8, iii, 3, 149.

Flowers blue, August. Alpine meadows.

KANSU : Tangut, *Przewalski*.

SZECHUEN : Ta-chien-lu, *Soulié*, 203 ; Tongolo, *Soulié*, 313 ; Kaupai, Tsa-ku-lao, *Rosthorn*, 2516.

12. *Salvia glutinosa*, Linn. ; Fl. Brit. Ind. iv, 653.

Flowers purple, September.

SZECHUEN : *Wilson*, 4344 (7000-9000 ft.).

CHEKIANG : Ningpo, *Ford*, 90.

13. *Salvia brevilabra*, Franch. in Bull. Soc. Phil. Par. sér. 8, iii, 3, 149.

S. Blinii, Lévillé in Fedde, Repert. Nov. Sp. ix, 219.

Flowers purple, July.

SZECHUEN : Ta-chien-lu, *Soulié*, 97, *Pratt*, 614, *Wilson*, 4345 (10,000-12,000 ft.).

14. *Salvia digitaloides*, Diels in Notes Bot. Gard. Edin. xxv, 234.

Flowers yellow with pale violet markings, April to May. Dry shady pine forests.

YUNNAN : eastern flank of Lichiang range, Sung-kwei, 8000-9000 ft., *Forrest*, 2031, 5619.

15. *Salvia umbratica*, Hance in Journ. Bot. 1870, 75.

Flowers blue, September to October.

CHILI : Jehol, *David*, 2122 ; Peking, *Bretschneider*, 593 ; Taihanling, *Bullock*, 43 ; *Carles*.

SZECHUEN : Ta-chien-lu, *Hosie*.

16. *Salvia Bulleyana*, Diels in Notes Bot. Gard. Edin. xxv, 233.

S. flava, *Forrest* ex Diels in Notes Bot. Gard. Edin. xxv, 235.

Flowers yellow to rose, July to August. Stony pastures and shady forest glades.

YUNNAN : Lichiang and Tali ranges at 10,000-12,000 ft., *Forrest*, 602, 2262, 2548, 4545, 4546 (type), 4547, 6079, 6831, 6953, 6988.

17. *Salvia castanea*, Diels in Notes Bot. Gard. Edin. xxv, 233.

Flowers canary-yellow, September. Stony pastures.

YUNNAN : eastern flank of Lichiang range, *Forrest*, 2938.

18. *Salvia plebeia*, R. Br. ; Fl. Brit. Ind. iv, 655.

Flowers blue, all the year. Fallow and cultivated fields, and on rocks.

Widely scattered from Chili and Shantung to Yunnan and Kwangtung.

19. *Salvia japonica*, Thunb.* ; Fl. Jap., 22.

S. betonicoides, Léveillé in Fedde, Repert. Nov. Sp. viii, 421.

S. tuberifera, Léveillé l.c.

S. Cavaleriei, Léveillé l.c. 422.

S. Delavayi, Léveillé l.c. ix, 220.

S. Prionitis, Hance in Journ. Bot. 1870, 74.

S. scapiformis, Hance l.c. 1885, 368.

S. Piazeskii, Maxim. in Mém. Biol. xi, 304.

S. Fortunei, Benth. in DC. Prodr. xii, 354.

S. chinensis, Benth. l.c. 355.

Flowers blue, red, purple, or rarely white, March to October. Shady places near brooks and on wood borders. Widely distributed in China from Shensi to Yunnan and Kwangtung.

28. *Lophanthus*, Fisch. et Mey. ; DC. Prodr. xii, 369.*Lophanthus rugosus*, Fisch. et Mey. ; DC. Prodr. xii, 369.

Elsholtzia monostachys, Lév. et Vaniot in Fedde, Repert. Nov. Sp. viii, 424.

Flowers pink to rose-purple, May to September. Woods. Kiangsu : Shanghai, *Faber*.

CHILI : foot of Mt. Conolly, *Pekin, Carles*.

FUKIEN : Buongkang, *Dunn*.

SHENSI : Tu-kia-po, *Giraldi*.

CHEKIANG : Ningpo, *Faber*.

HUPEH : W. Hupeh, *Wilson*, 2508, *Henry*, 424 ; Ou-tan-sien, *Silvestri*, 2044.

KWEICHOW : Kouy-yang, *Bodinier*, 2486.

YUNNAN : Feng-chen-lin, forests at 7000 ft., *Henry*, 11,215.

* The species is extremely variable, and many forms have received specific names; but they are so closely connected by the intermediates in the large series now before me, and they are so devoid of any geographical significance, that it appears most reasonable to treat the whole as unispecific. The constant characters are the raceme or panicle of small blue flowers, cylindric calyx, protruded corolla tube, upper straight concave lip, and reflexed 3-lobed lower one. The degree of protrusion of the tube and the stamens is certainly in some cases sexual. The leaves vary through a very wide range; they are even occasionally digitate or pedate through the division of the lower leaflets of a trifoliate leaf (*Morse*, 4). *Hemsley's var. erythrophylla* has the upper lip shorter and the stamens protruded from earliest anthesis, but the intermediates are numerous.

29. *Nepeta*, Linn. ; Fl. Brit. Ind. iv, 656.

- | | |
|---|--------------------------|
| 1. Leaves pinnatifid | 2. |
| Leaves ovate or rotund, crenate or serrate | 3. |
| 2. Terminal lobe of leaf large, deeply crenate ;
flower twice as long as the calyx | 1. <i>lavandulacea</i> . |
| Terminal and all the lobes linear ; flower ex-
ceeding the calyx by one quarter | 2. <i>tenuifolia</i> . |
| 3. Leaves complanate | 3. <i>complanata</i> . |
| Leaves distichous | 4. |
| 4. Spike of flowers dense, continuous | 4. <i>lamiopsis</i> . |
| Flowers in interrupted spikes or distant
verticils, or in panicles | 5. |
| 5. Flowers few together in the axils of the stem-
leaves | 5. <i>Glechoma</i> . |
| Flowers in terminal whorled cymes | 6. |
| 6. Corolla tube shorter than the long hair-
pointed calyx teeth | 7. |
| Corolla tube much longer than the acute (not
hair-pointed) calyx teeth | 8. |
| 7. Leaves large, acute | 6. <i>Cataria</i> . |
| Leaves small, obtuse | 7. <i>leucophylla</i> . |
| 8. Corolla 2 cm. long | 8. <i>Everardi</i> . |
| Corolla 1 cm. long | 9. <i>Fordii</i> . |

1. *Nepeta lavandulacea*, Linn. f. ; DC. Prodr. xii, 370.

N. Vaniotiana, Léveillé in Fedde, Repert. Nov. Sp. ix, 220.

Flowers purple to violet, November. Waste and barren places.

KANSU : *Przewalski*.

KWEICHOW : near Kouy-yang, *Bodinier*, 2011.

2. *Nepeta tenuifolia*, Benth. ; DC. Prodr. xii, 370.

Flowers pale lilac, September.

CHILI : between Pekin and Jehol, *Staunton* ; Pekin, *Men-tou-kou*, *Carles* ; Pekin, *Bretschneider*, 605, *Skatshkoff*, *Bullock*, 42 ; Jehol, *David*, 2119.

SHENSI : Mt. Miao-nan-san, near Pao-ki-scen, *Giraldi*, 3892.

3. *Nepeta complanata*, Dunn in Notes Bot. Gard. Edin. xxxvii, 122.

Flowers pale purple, July. On scree.

SZECHUEN : 16,000 ft., *Kingdon Ward*.

4. *Nepeta lamiopsis*, Benth. ; Fl. Brit. Ind. iv, 659.

Flowers bright blue, July to August. Grassy rocky slopes.

SZECHUEN: at 9000–11,000 ft., *Wilson*, 4334; Ta-chien-lu, *Pratt*, 472, *Soulié*, 260.

YUNNAN: S.W. China, *Monbeig*; eastern flank of Lichiang range, 11,000–12,000 ft., *Forrest*, 2666.

5. *Nepeta Glechoma*, Benth.; DC. Prodr. xii, 391.

Flowers blue or purple, April to May.

SHANTUNG: Chefoo, *Hancock*, 4; Wei-hai-wei, *Matthew*.

*SZECHUEN: W. China, *Wilson*, 4361.

HUPEH: W. Hupeh, *Wilson*, 223, *Henry*, 3840; Ichang, *Henry*, 655, 3397, 3840, 3724, 5259A.

KIANGSU: Shanghai, *Maingay*, 540, *Carles*; Nanking, *Faber*, 912.

CHEKIANG: Hoochow, *Carles*, 162.

KIANGSI: Kewkiang, *Faber*, 585.

FUKIEN: *Dunn*.

YUNNAN: N.W. Yunnan, *Monbeig*, 212; Yunnan-sen, *Maire*, 637.

KWANGTUNG: Hongkong (rare), *Hance*, 1146.

6. *Nepeta Cataria*, Linn.; Fl. Brit. Ind. iv, 662.

N. *Bodinieri*, Vaniot in Bull. Acad. Géogr. Bot. xiv, 172.

Calamintha albiflora, Vaniot l.c. 181.

Flowers white or rose-purple, June to December.

SHANTUNG: Chefoo, *Hance*, 2275 (Swinhoe).

SZECHUEN: *Wilson*, 4386.

HUPEH: Patung, *Henry*, 6156.

KWEICHOW: near Kouy-yang, *Bodinier*, 2030; near Gan-pin, *Martin*.

YUNNAN: N.W. Yunnan, *Monbeig*, 213.

7. *Nepeta leucophylla*, Benth.; Fl. Brit. Ind. iv, 662.

YUNNAN: ex Kanitz, *fide* Hemsl.

8. *Nepeta Everardi*, S. Moore in Journ. Bot. 1875, 135.

CHEKIANG: Ningpo, *Everard*.

9. *Nepeta Fordii*, Hemsl. in Journ. Linn. Soc. xxvi, 289.

Flowers blue, April to August.

HUPEH: Ichang and Patung, *Henry*, 1132, 1986, 3978; Sui-fu, *Faber*, 685; above Wan on the river Yangtze, *Faber*, 701; W. Hupeh, *Wilson*, 483.

KWANGTUNG: Lienchow River, *Matthew*.

30. *Dracocephalum*, Linn. ; Fl. Brit. Ind. iv, 664.

- | | |
|---|----------------------------|
| 1. Leaves pinnatifid | 1. <i>tanguticum</i> . |
| Leaves entire or toothed | 2. |
| 2. Bracts pectinate, prickly | 5. |
| Bracts entire or without prickles | 3. |
| 3. Upper calyx tooth ovate, entire | 4. |
| Upper three teeth combined into a 3-toothed lobe | 7. |
| 4. Leaves linear, entire | 2. <i>Ruyschianum</i> . |
| Leaves ovate, crenate | 6. |
| 5. Floral leaves spinoso-serrate at the base ; flower spike interrupted | 3. <i>Moldavica</i> . |
| Floral leaves crenate at the base ; flower spike dense | 4. <i>heterophyllum</i> . |
| 6. Calyx pubescent, teeth acute | 5. <i>speciosum</i> . |
| Calyx asperous, teeth spinose | 6. <i>grandiflorum</i> . |
| 7. Flowers few together ; upper leaves stalked, serrate, usually ovate cordate | 8. |
| Flowers in dense verticils ; upper leaves usually sessile, oblong, finely serrate or crenate, usually truncate or acute at the base | 9. |
| 8. Calyx lobes linear, hair-pointed | 7. <i>Biondianum</i> . |
| Calyx lobes lanceolate acute | 8. <i>urticifolium</i> . |
| 9. Middle and upper leaves sessile | 10. |
| Middle and upper leaves with slender stalks | 13. |
| 10. Bracts lanceolate | 11. |
| Bracts linear | 9. <i>sibiricum</i> . |
| 11. Calyx segments narrow, subulate | 10. <i>Veitchii</i> . |
| Calyx segments narrow-lanceolate | 12. |
| 12. Corolla $2\frac{1}{2}$ times the calyx | 11. <i>Wilsoni</i> . |
| Corolla $1\frac{1}{2}$ times the calyx | 12. <i>coeruleascens</i> . |
| 13. Corolla 3 times the calyx | 13. <i>Stewartianum</i> . |
| Corolla twice the calyx | 14. <i>tenuiflorum</i> . |

I. *Dracocephalum tanguticum*, Maxim. ; Mél. Biol. xi, 307.

Flowers blue to deep purple, August to September. Stony meadows.

KANSU : *Przewalski*.

SZCHUEN : Tongolo, *Soulié*, 243 ; Ta-chien-lu, *Pratt*, 579 ; W. China, 6000-7000 ft., *Wilson*, 4362.

YUNNAN: eastern flank of Lichiang range at 11,000–12,000 ft.,* *Forrest*, 3033, 6490; Chung-tien plateau, *Forrest*, 604-05 (12,000–13,000 ft.).

2. *Dracocephalum Ruyschianum*, Linn.; DC. Prodr. xii, 401.
Flowers mauve, July. Dry hilly places.
CHILI: Jehol, *David*.

3. *Dracocephalum Moldavica*, Linn.; Fl. Brit. Ind. iv, 665.
D. Fargesii, Lévillé in Fedde, Repert. Nov. Sp. ix, 246.
Flowers blue, August to October. Ditches.
CHILI: Pekin, *Bretschneider*, *Satow*, *Hancock*, 62 (2000 ft.);
Miao-feng-shan, *Carles*.
KIANGSI: Sarchy (rare), *David*, 2918.

4. *Dracocephalum heterophyllum*, Benth.; Fl. Brit. Ind. iv, 665.
Flowers white.
KANSU: *Przewalski*, *Hosie*, *H. F. Ridley*.

5. *Dracocephalum speciosum*, Benth.; Fl. Brit. Ind. iv, 665.
D. bullatum, *Forrest* ex Diels in Notes Bot. Gard. Edin. xxv, 238.
Flowers dark purplish-blue, July. Limestone drift.
YUNNAN: eastern flank of Lichiang Range at 11,000–12,000 ft., *Forrest*, 6214, 2730.

6. *Dracocephalum grandiflorum*, Linn.; DC. Prodr. xii, 399.
D. rupestre, Hance.
Flowers blue, October. Grassy slopes.
CHILI: Pekin Mountains at 8000 ft., *Hancock*, 6; Miao-feng-shan at 6000 ft.; *Hance*, 14,881, *Carles*; Siao-wu-tai-shan, *Moellendorf*.

7. *Dracocephalum Biondianum*, Diels in Engl. Jahrb. xxxvi, Beibl. 82, 94.
Flowers May.
SHENSI: Kan-y-shan, *Giraldi*, 3930–31.

8. *Dracocephalum urticifolium*, Miq. in Ann. Mus. Bot. Lugd.-Bat. ii, 109.
D. sinense, S. Moore in Journ. Linn. Soc. xiii, 385, t. 16, f. 7.
Flowers blue, purple, or rarely white, March to November.
Wet shady places.

* In the higher altitudes of its range the flowers are larger (up to twice the size of the Tangut types).

*Key to Varieties and Forms of Draccephalum urticifolium.*Leaves ovate, var. **typica**—

- | | |
|---|-----------------------------|
| Normal form of type | (1) forma <i>normalis</i> . |
| Flowers racemose | (2) forma <i>racemosa</i> . |
| Stems emitting stolons, which root and flower | (3) forma <i>radicans</i> . |
| Leaves slightly fleshy | (4) forma <i>carnosa</i> . |

Leaves oblong-lanceolate, var. **angustifolia**—

- | | |
|---|-----------------------------|
| Normal form | (5) forma <i>normalis</i> . |
| Flowers racemose | (6) forma <i>racemosa</i> . |
| Stems emitting stolons, which root and flower | (7) forma <i>radicans</i> . |

(1) var. **typica**, forma **normalis**.SZECHUEN: Omi-shan, *Wilson*, 5121.HUPEH: Hsing-shin, *Wilson*, 1852; W. Hupeh, *Wilson*, 323, 2774; Chang-yang, *Wilson*, 1129.YUNNAN: Mengtze at 7000 ft., *Hancock*, 24.(2) var. **typica**, forma **racemosa**.*D. Henryi*, Hemsl. in Journ. Linn. Soc. xxvi, 291.SZECHUEN: S. Wu-shan, *Wilson*, 1051; Pao-kang, *Wilson*, 2280; W. China, *Wilson*, 4368, 4370, 4370A, 4371; Ta-chien-lu, *Pratt*, 350.HUPEH: Patung, *Henry*, 1408, 6109, 6109A; W. Hupeh, *Wilson*, 755, 962.(3) var. **typica**, forma **radicans**.SZECHUEN: Tchen-kou-tin, *Farges*, 1125.YUNNAN: Szemao at 9000 ft., *Henry*.(4) var. **typica**, forma **carnosa**.*D. Faberii*, Hemsl. in Journ. Linn. Soc. xxvi, 291.SZECHUEN: Omi-shan, *Faber*, 299, 860-61 (2500-4000 ft.); N. Wu-shan, *Henry*, 7041, 7088.HUPEH: Patung, *Henry*, 4700; Paking, *Wilson*, 2565, 2565A.(5) var. **angustifolia**, forma **normalis**.*D. simplex*, Vaniot in Bull. Acad. Géogr. Bot. xiv, 179.*D. Esquirolii*, Lévillé in Fedde, Repert. Nov. Sp. viii, 422.*D. pinfaense*, Lévillé l.c.HUPEH: Patung, *Henry*, 5330; Chang-sha, *Henry*, 6322; W. Hupeh, *Wilson*, 595; Chien-shi, *Wilson*, 744, 969, 1970, 2774A.KIANGSI: Kiukiang, *Maries*.KWEICHOW: *Esquirol*, 57, *Cavalerie*; Kouy-yang, *Bodinier*, 2284.YUNNAN: Mengtze, *Henry*, 13,695; Yunnan-fu, *Ducloux*, 614.

(6) var. *angustifolia*, forma *racemosa*.

D. stachydifolium, *D. kaitchense*, and *D. Cavaleriei*, Léveillé in Fedde, Repert. Nov. Sp. viii, 422.

HUPEH: Chienshi, Henry, 5798.

KWEICHOW: *Cavalerie*, 1034; Kai-chow, *Cavalerie*, 2781; Longly, *Cavalerie*, 826.

(7) var. *angustifolia*, forma *radicans*.

KWEICHOW: *Bodinier*.

In the following the determinations of the forms were not noted:—

HUPEH: *Wilson*, 1405.

YUNNAN: eastern flank of Tali range at 9000–10,000 ft., *Forrest*, 7037, 7115, 4536.

9. *Dracocephalum sibiricum*, Linn.

D. Prattii, Léveillé in Fedde, Repert. Nov. Sp. ix, 245.

Nepeta macrantha, Fisch.; DC. Prodr. xii, 387.

N. Souliei, Léveillé in Fedde, Repert. Nov. Sp. ix, 221.

Flowers blue, September.

KANSU: *Przewalski*.

SZCHUEN: Ta-chien-lu, *Pratt*, 501, *Soulié*, 484, 816; W. China at 8000–11,000 ft., *Wilson*, 4363.

10. *Dracocephalum Veitchii*, Dunn in Notes Bot. Gard. Edin. xxxvii, 166.

Nepeta Veitchii, Duthie in Gard. Chron. 1906, ii, 334.

Flowers light blue.

SZCHUEN: *Wilson*; cultivated by Messrs. Veitch in 1906.

11. *Dracocephalum Wilsoni*, Dunn in Notes Bot. Gard. Edin. xxxvii, 166.

Nepeta Wilsoni, Duthie in Gard. Chron. 1906, ii, 334.

Flowers dark blue with base of corolla yellow, July. Stony pastures.

SZCHUEN: Sung-pan, *Wilson*; Ta-chien-lu, *Pratt*, 582, *Soulié*, 786; Tongolo, *Soulié*, 948.

YUNNAN: eastern flank of Lichiang range, 10,500–11,500 ft., *Forrest*, 2601, 6177.

12. *Dracocephalum coerulescens*, Dunn in Notes Bot. Gard. Edin. xxxvii, 166.

Nepeta coerulescens, Maxim. in Mém. Biol. xi, 306.

KANSU: *Przewalski*.

13. *Dracocephalum Stewartianum*, Dunn in Notes Bot. Gard. Edin. xxxvii, 166.

Nepeta Stewartiana, Diels l.c. xxv, 237.

Flowers blue, July to September. Grassy glades in forest.

SZECHUEN: W. China at 11,000 ft., *Wilson*, 4366.

YUNNAN: eastern flank of Lichiang range, 9000–12,000 ft., *Forrest*, 598, 2960, 6284, 6447.

14. *Dracocephalum tenuiflorum*, Dunn in Notes Bot. Gard. Edin. xxxvii, 166.

Nepeta tenuiflora, Diels l.c. xxv, 237.

Flowers blue, August. Open grassy slopes and glades.

YUNNAN: eastern flank of Lichiang range, 9000–11,000 ft., *Forrest*, 2657.

31. *Scutellaria*, Linn.; Fl. Brit. Ind. iv, 667.

- | | |
|---|--------------------------|
| 1. Leaves truncate at the base, or ovate or orbicular | 2. |
| Leaves not truncate at base, linear or oblong, obtuse | 19. |
| 2. Leaves truncate at the base, or sinuate or dentate | 3. |
| Leaves cuneate, rounded or cordate at base, crenate or serrate | 6. |
| 3. Leaves oblong, obtuse, sinuate-dentate throughout | 1. <i>scordifolia</i> . |
| Leaves ovate or sinuate-dentate only below | 4. |
| 4. Leaves sinuate dentate throughout; flowers subtended by short bracts | 5. |
| Leaves sinuate-dentate in their lower third part; flowers subtended by leafy bracts; racemes terminal | 2. <i>rivularis</i> . |
| 5. Racemes axillary | 3. <i>Franchetiana</i> . |
| Racemes terminal | 4. <i>sp</i> . |
| 6. Racemes axillary | 7. |
| Racemes terminal | 8. |
| 7. Leaves stalked | 5. <i>angulosa</i> . |
| Leaves sessile | 6. <i>sessilifolia</i> . |
| 8. Leaves mostly radical | 7. <i>Tayloriana</i> . |
| Leaves at flowering time all cauline | 9. |
| 9. Leaves cuneate or rounded at base, entire or sinuate | 10. |
| Leaves truncate or cordate at base | 15. |

- | | |
|--|---------------------------|
| 10. Leaves reticulate beneath, rounded at top | 8. <i>obtusifolia</i> . |
| Leaves with veins not prominently netted beneath | 11. |
| 11. Leaves densely pubescent beneath | 12. |
| Leaves glabrous | 14. |
| 12. Leaves entire or coarsely serrate | 9. <i>javanica</i> . |
| Leaves sinuate-dentate | 13. |
| 13. Leaves conspicuously 3-nerved | 10. <i>trinervata</i> .* |
| Leaves penni-nerved | 4. <i>Vaniotiana</i> .* |
| 14. Leaves less than 5 cm. long | 11. <i>stenosiphon</i> .* |
| Leaves over 10 cm. long | 12. <i>yunnanensis</i> . |
| 15. Petiole more than $\frac{1}{4}$ of blade | 16. |
| Petiole less than $\frac{1}{4}$ of blade | 18. |
| 16. Leaves usually orbicular, obtuse, less than 2.5 cm. long | 17. |
| Leaves elliptic, over 5 cm. long | 13. <i>discolor</i> . |
| 17. Racemes long and terminal | 14. <i>indica</i> . |
| Racemes on short lateral branches | 15. <i>Wongkei</i> . |
| 18. Leaves acute | 16. <i>cyrtopoda</i> . |
| Leaves obtuse | 17. <i>Forrestii</i> . |
| 19. Leaves oblong-elliptic, blunt | 20. |
| Leaves linear-oblong, entire | 24. |
| 20. Leaves bidentate, distinctly stalked | 21. |
| Leaves entire or crenate, subsessile | 22. |
| 21. Flowers viscid-hairy; leaves obtuse | 18. <i>sciaphila</i> . |
| Flowers glabrous | 19. <i>laxa</i> . |
| 22. Flowers axillary; root fibrous | 20. <i>strigillosa</i> . |
| Flowers racemose; root woody | 23. |
| 23. Flowers blue | 21. <i>amoena</i> . |
| Flowers yellow | 22. <i>likiangensis</i> . |
| 24. Leaves viscid-hairy | 23. <i>viscidula</i> . |
| Leaves glabrous or subglabrous | 24. <i>macrantha</i> . |

1. *Scutellaria scordifolia*, Fisch. ; DC. Prodr. xii, 425.

Flowers light blue, June to July. Rocky places.

CHILI : Jehol, *David* ; Hun-ho (River), Pekin (rare), *Hancock*, 82.

SHANTUNG : Chefoo, *Hancock*, 13, *Dunn* ; Wei-hai-wei, *Matthew, Dunn*.

KANSU : *H. F. Ridley*.

2. *Scutellaria rivularis*, Wall. ; Fl. Brit. Ind. iv, 670.

S. Cavaleriei, Lévêillé et Vaniot in Fedde, Repert. Nov. Sp. viii. 402.

* Nos. 4, 10, and 11 may prove to be the same species.

Flowers blue to brilliant purple, April to October. Ditches, paddy bunds, and wet banks.

SZETCHUEN: Omi, *Faber*.

HUPEH: Ichang, *Henry*, 480, 273, 886, *Wilson*, 390, 1127, 1387.

KIANGSU: Chiukiang, *Carles*, 441.

CHEKIANG: *Hickin*; Ningpo, *Cooper*.

KIANGSI: Kewkiang, *Bullock*, 214, *Reid*, 8, *Carles*, 214.

FUKIEN: Yenping, *Dunn*.

KWEICHOW: Gan-pin, *Cavalerie*, 2105.

YUNNAN: Szemao, W. forests, *Henry*, 11,919, 11,919A (5000 ft.).

KWANGTUNG: Macao, *Callery*, 184; Sai-chu-shan (*Sampson*), *Hance*, 10,910; Lienchow River, *Matthew*; Wu-king-fu, *Dalziel*; Swatow, *Dunn*; Suikong, *B. C. Henry*.

HAINAN: Kiung-chou, *Ford*, 461.

3. *Scutellaria Franchetiana*, Léveillé in Fedde, Repert. Nov. Sp. ix, 221.

Flowers red, April to June. Sides of rivulets.

SZETCHUEN: Omi, *Wilson*, 5122; Tchen-kou at 3600 ft., *Farges*, 1133.

HUPEH: *Henry*, 3559, 3559A; S. Patung, *Henry*, 6087; Nanto, *Wilson*, 1211.

FUKIEN: Foochow, *Carles*, 612; Buong-kang (Yenping), *Dunn*, *Hongkong Herb.*, 3415.

4. *Scutellaria*, sp.*

Flowers pale violet, July.

KWEICHOW: Yang-kia Tchang, *Esquirol*, 291.

5. *Scutellaria angulosa*, Benth.; Fl. Brit. Ind. iv, 669.

Flowers white, June, July. Sides of streams.

HUPEH: Fang, *Wilson*, 2227, 2389.

6. *Scutellaria sessilifolia*, Hemsl. in Journ. Linn. Soc. xxvi, 297.

S. Delavayi, Léveillé in Fedde, Repert. Nov. Sp. ix, 221.

Flowers pale yellow, June to August. Woods.

SZETCHUEN: Omi at 4000-9000 ft., *Faber*, 119, *Wilson*, 5129.

YUNNAN: Tchen-fong-chan, *Delavay*, 5122.

* This species has been named by Léveillé in honour of Vaniot, but as no description has been so far seen the *nomen nudum* is withheld.

7. *Scutellaria Tayloriana*, Dunn in Notes Bot. Gard. Edin. xxxvii, 166.
 Flowers blue, March.
 YUNNAN: *Ducloux*, 429; Yunnan-sen, *Maire*, 1630, 2178, 2265, 2294, 2531.
 KWANGTUNG: Tai-mo-shan, Hongkong, *Ford*, 107; Lantao, *Tutcher*.
8. *Scutellaria obtusifolia*, Hemsl. in Journ. Linn. Soc. xxvi, 296.
 Flowers blue, June.
 SZECHUEN: Omi, *Faber*, 746, 871 (types), 3500, *Wilson*, 5131; Min River, *Wilson*, 4356.
 HUPEH: Ichang, *Henry*, 4208 (type).
9. *Scutellaria javanica*, Jungh.
S. formosana,* N. E. Br. in Gard. Chron. 1894, ii, 212.
 Flowers blue, July.
 KWANGTUNG: Lantao.
 HAINAN: Tai-ün, *Ford*, 462.
10. *Scutellaria trinervata*, Vaniot in Bull. Acad. Géogr. Bot. xiv, 189.
 Flowers June.
 KWEICHOW: Tou-chan, *Bodinier*.
11. *Scutellaria stenosphon*, Hemsl. in Journ. Linn. Soc. xxvi, 297.
 Flowers July.
 KWANGTUNG: Lo-fou-shan, *Ford*.
12. *Scutellaria yunnanensis*, Lévillé in Fedde, Repert. Nov. Sp. ix, 221.
 Flowers rosy, May. Shady places.
 SZECHUEN: Omi, *Wilson*, 209, 4355, 4360-61, 5714.
 YUNNAN: Lou-ki, *Delavay*, 4983.
13. *Scutellaria discolor*, Colebr.; Fl. Brit. Ind. iv, 667.
 Flowers purple. Ravines in forest.
 YUNNAN: Mi-lê forests at 5000 ft., *Henry*, 10,458; Feng-chen-lin, south of Red River at 7000 ft., *Henry*, 10,657; Szemao at 4000 ft., *Henry*, 12,368, 12,368A.

* N. E. Brown received the plant which he called *S. formosana* from Veitch in 1894, and supposed that it came from Formosa. But it is very probable that it originated in the Hongkong Botanic Garden, to which it was introduced from Hainan and where it flowered abundantly at about that time.

14. *Scutellaria indica*, Linn. ; DC. Prodr. xii, 417.
Flowers blue to purple, sometimes with a violet-like perfume.
Common on grassy hillsides at low and moderate elevations in most provinces of China.
15. *Scutellaria Wongkei*, Dunn in Kew Bull. 1914, 329.
Flowers blue, August.
KWANGTUNG : Shun-ling, Sze-tse-shan, *Wong-ke*.
16. *Scutellaria cyrtopoda*, Miq. Fl. Brit. Ind. ii, 973.
Flowers pink.
YUNNAN : Mengtze at 8000 ft., *Henry*, 10,240.
17. *Scutellaria Forrestii*, Diels in Notes Bot. Gard. Edin. xxv, 239.
Flowers deep purple. Limestone rocks.
YUNNAN : eastern flank of Lichiang range at 11,000 ft., *Forrest*, 2281, 5705.
18. *Scutellaria sciaphila*, S. Moore in Journ. Bot. 1875, 228.
Flowers purple, May. Wheat-fields.
KIANGSI : Kewkiang, *Shearer* (type), *Bullock*, 215.
19. *Scutellaria laxa*, Dunn in Notes Bot. Gard. Edin. xxxvii, 166.
Flowers pale purple, February.
YUNNAN : Feng-chen-lin at 8000 ft., *Henry*, 13,771.
20. *Scutellaria strigillosa*, Hemsl. in Journ. Linn. Soc. xxvi, 297.
Flowers light blue.
SHANTUNG : Chefoo, *Perry*.
21. *Scutellaria amoena*, Wright in Kew Bull. 1896, 164.
S. tuberosa, Vaniot in Bull. Acad. Géogr. Bot. xiv, 188.
S. hypericifolia, Léveillé in Fedde, Repert. Nov. Sp. ix, 221.
Flowers bright blue, purple, or rose-lavender, March to August. Dry, arid, and stony pastures.
SZECHUEN : Ta-chien-lu, *Wilson*, 4357, *Soulié*, 526, *Pratt*, 580, 703 (types) ; Sangpan at 10,000, *Wilson*, 4358, 4359.
YUNNAN : Yunnan-sen, *Maire*, 213, 1467, 1794, 2301 ; Tse-kou, *Monbeig*, 216 ; eastern flank of Lichiang range, 9000-11,000 ft., *Forrest*, 2083, 4541, 5728, 7147 (Tali range, 8000-9000 ft.), 607 (Chung-tien plateau at 13,000 ft.) ; Mengtze, 6000-7000 ft., *Henry*, 10,560, *Hancock*, 2 ; mountains from Ma-ke to Le-kong-t sien, *Bodinier*.

22. *Scutellaria likiangensis*, Diels in Notes Bot. Gard. Edin. xxv, 239.

Flowers dull yellow, June. Dry open situations among scrub.

YUNNAN: eastern flank of Lichiang range, *Forrest*, 2424, 6003.

23. *Scutellaria viscidula*, Bunge; DC. Prodr. xii, 424.

CHILI: N. China, *Bunge*; Pekin to Jehol, *Staunton*; Pekin, *Skatschkoff*.

SHANTUNG: Chefoo, *Stuhlmann*.

24. *Scutellaria macrantha*, Fisch.; DC. Prodr. xii, 424.

S. baicalensis, Georgi, It. 223.

Flowers deep blue to purple, July to November. Grassy hills, sandy moors.

CHILI: Great Wall, *Bunge*; N. China (Moellendorf), *Hance*, 11,426; Pekin, *Williams*, *Hancock*, 16, *Satow*, *Bretschneider*, 587-88, *Bushell*, *Hemeling*, *Carles*, 163.

SHANTUNG: Maingay, 112; Chefoo, *Hancock*, 33, *Faber*, 127, *Fortune*, 16.

YUNNAN: Yunnan-sen, *Maire*, 86, 2183; Mengtze, 5000-6000 ft., *Hancock*, 69, *Henry*, 13,772.

32. *Prunella*, Linn.; Fl. Brit. Ind. iv, 670.

Prunella vulgaris, Linn.; Fl. Brit. Ind. iv, 670.

Flowers purple, June. Grassy banks.

Frequent in the less elevated districts of China from Shantung to Yunnan.

33. *Chelonopsis*, Miq.; Benth. et Hook. Gen. Pl. ii, 1204.

- | | |
|---|-------------------------|
| 1. Leaf-blade more than 4 cm. long, closely crenate-serrate | 2 |
| Leaf-blade under 3 cm., coarsely irregularly biserrate | 1. <i>Giraldii</i> . |
| 2. Petiole less than $\frac{1}{4}$ of blade | 3. |
| Petiole $\frac{1}{4}$ of blade | 2. <i>odontochila</i> . |
| 3. Leaves sessile, narrow-lanceolate | 3. <i>deflexa</i> . |
| Leaves petioled, ovate | 4. <i>moschata</i> . |

- f. *Chelonopsis Giraldii*, Diels in Engl. Jahrb. xxxvi, Beibl. 82, 94.

Flowers August to October.

SHENSI: Tai-pa-shan, *Giraldi*, 1233; Miao-wang-shan, *Giraldi*, 5585.

2. *Chelonopsis odontochila*, Diels in Notes Bot. Gard. Edin. xxv, 240.

Flowers yellow, October.

YUNNAN: valley of Yangtze between Tse-kou and Shi-ku at 6000–7000 ft., *Forrest*, 22, 600.

3. *Chelonopsis deflexa*, Diels in Engl. Jahrb. xxix, 554.

C. Benthamiana, Hemsl. in Journ. Linn. Soc. xxvi, 298.

Bostrychanthera deflexa, Benth. et Hook. Gen. Pl. ii, 1216.

HUPEH: Chien-shih, *Henry*, 7325 (type).

FUKIEN: Amoy, *Swinhoe* (type).

4. *Chelonopsis moschata*, Miq.; Mém. Biol. ix, 443.

KIANGSI: Ningpo (Faber), *Hongkong Herb.* 73.

34. *Marrubium*, Linn.; Fl. Brit. Ind. iv, 671.

Marrubium incisum, Benth.; DC. Prodr. xii, 447.

Flowers white, March to April. Weed in fields.

CHILI: Pekin, *Bretschneider*, 594, *Bushell*, *Bunge*, *Carles*, *Hemeling*; Tchao-tchao, *Chanet*.

HUPEH: W. Hupeh, *Wilson*, 1756; Ichang, *Henry*, 1233; Yangtze River, *Faber*, 704.

KIANGSU: Chinkiang, *Carles*.

KIANGSI: Ningpo, *Everard*.

YUNNAN: Mengtze plain, *Henry*; Yunnan-sen, *Maire*, 1473, 1625, 2161; Yunnan-fu and Tali, 6000–7000 ft., *Forrest*, 594, 4957.

35. *Craniotome*, Reichb.; Fl. Brit. Ind. iv, 671.

Craniotome versicolor, Reichb.; Fl. Brit. Ind. iv, 671.

Flowers pink. Mountain woods.

YUNNAN: Mengtze on S.E. mts. at 7000 ft., *Henry*, 9162, 11,251; Yunnan-sen, *Maire*, 745, 1169, 1581.

36. *Anisomeles*, Br.; Fl. Brit. Ind. iv, 672.

Anisomeles ovata, Br.; Fl. Brit. Ind. iv, 672.

Flowers pink, August. Grassy and waste places.

HUPEH: Nanto, *Henry*, 4442.

FUKIEN: Amoy, *Dunn*.

YUNNAN: Mengtze, *Hancock*, 324, *Henry*, 10,149, 10,149A.

KWANGTUNG: *Ford*, 143, *Fortune*, 140, *Millett*, *Seeman*, 2439; Swatow, *Dalziel*, *Dunn*; Hongkong, Little Hongkong, *Wilford*, 214, *Wright*, 389; Macao, *Callery*, 141, *Meyen*; *Danes*

Island, *W. Brown*; Pakhoi, *Playfair*, 97; Hoi-fung, *Lo Quai*; Plover Cove, Hongkong, *Mrs. Gibbs*.

HAINAN: Sam-shan-sze, *Dunn's Chinese collector*.

37. *Colquhounia*, Wall.; Fl. Brit. Ind. iv, 674.

Hairs on leaves and flowers stellate 1. *coccinea*.
Hairs simple 2. *elegans*.

1. *Colquhounia coccinea*, Wall.; Fl. Brit. Ind. iv, 674.

Flowers of a soft rose, July. Dry stony places and on cliffs.

YUNNAN: eastern flank of Tali range at 6500–7000 ft., *Forrest*, 620, 627, 4533, 6889, 7120.

2. *Colquhounia elegans*, Wall.; Fl. Brit. Ind. iv, 674.

Flowers red, pink, orange, or brown, March, December. Woods.

Key to Varieties of C. elegans.

Flowers in loose few-flowered axillary heads;
corolla tube very short, throat wide var. *pauciflora*.
Flowers in loose many-flowered long axillary
racemes; corolla tube very long, throat
narrowed var. *tenuiflora*.

var. *pauciflora*, Prain in Journ. As. Soc. Beng. lxii, 38.

C. Seguini, Vaniot in Bull. Acad. Géogr. Bot. xiv, 165.

C. decora, Diels * in Notes Bot. Gard. Edin. xxv, 240.

HUPEH: Ichang, *Henry*, 3334, 3334A (types), 4089.

KWEICHOW: Ou-la-gay and Hoang-ko-chou, *Bodinier*, 2237.

YUNNAN: Ko-chin Range, 6000–7000 ft., *Hancock*, 452;
Mengtze, *Henry*, 9089, 9089A and B; Shek-ping, *Henry*, 11,582;
Yunnan-sen, *Maire*, 1221; hills west of Yunnan-fu, *Forrest*, 327A.

var. *tenuiflora*, Prain l.c.

YUNNAN: Szemao at 5000 ft., *Henry*, 12,607A and B.

38. *Stachys*, Linn.; Fl. Brit. Ind. iv, 675.

- | | |
|---|-----------------------|
| 1. Stem with plentiful deflexed needle-like hairs | 2. |
| Stem glabrous or with spreading or soft hairs | 3. |
| 2. Flowers less than twice the calyx; leaves
linear, sessile | 1. <i>chinensis</i> . |
| Flowers twice as long as the calyx; leaves
shortly stalked | 2. <i>aspera</i> . |

* Diels writes (l.c.) that *Henry's* n. 3334, which is Prain's type of *C. elegans* var. *pauciflora*, is quite different from *C. decora*, Diels, having much smaller flowers. When Diels' and Prain's type specimens are compared, the flowers are, however, seen to be exactly the same size.

- | | |
|---|--------------------------|
| 3. Calyx teeth blunt callous | 3. <i>adulterina</i> . |
| Calyx teeth acute or bristle-pointed | 4. |
| 4. Calyx teeth ovate | 5. |
| Calyx teeth linear | 4. <i>leptodon</i> . |
| 5. Leaves cordate ovate stalked | 5. <i>kouyangensis</i> . |
| Leaves oblong or linear-oblong | 6. |
| 6. Corolla scarcely longer than the calyx ;
flowers axillary | 6. <i>arvensis</i> . |
| Corolla much exserted | 7. |
| 7. Leaves densely velvety beneath | 7. <i>oblongifolia</i> . |
| Leaves glabrous or pubescent | 8. <i>palustris</i> . |

1. *Stachys chinensis*, Bunge ; DC. Prodr. xii, 471.
S. Chanetii, Léveillé in Fedde, Repert. Nov. Sp. ix, 222.
 Flowers purple, May. Ditches.
 CHILI : N. China, Bunge ; Peking, Bretschneider, 604 ;
 Ting-tcheou, Chanet, 407.

2. *Stachys aspera*, Michx. ; DC. Prodr. xii, 471.
 CHILI : Jehol, David ; Pekin, Skatschkoff, David, 9418.
 SHANSI : Pei-shan, David.

3. *Stachys adulterina*, Hemsl.* in Journ. Linn. Soc. xxvi, 300.
 Flowers red, pink, or white, July.
 SZECHUEN : S. Wu-shan, Wilson, 1380 ; Changyang, Wilson,
 1541.
 HUPEH : Henry, 2459, 6192 ; Patung, Henry, 4676 (types).

4. *Stachys leptodon*, Dunn in Notes Bot. Gard. Edin. xxxvii,
 167.
 Flowers purple.
 YUNNAN : Yunnan-sen, Maire, 88, 182, 1591, 2022.

5. *Stachys kouyangensis*, Dunn in Notes Bot. Gard. Edin.
 xxxvii, 167.
S. Franchetiana, † Léveillé in Fedde, Repert. Nov. Sp. ix, 246.
S. cordifolia, Prain in Journ. As. Soc. Beng. lix, ii, 310,
 not of C. Kock.
S. cardiaphylla, Prain ex Dunn.
Lamium kouyangense, Vaniot in Bull. Acad. Géogr. Bot.
 xiv, 175 (1904).

* *S. adulterina* and *oblongifolia* may prove to be but marked forms of
S. palustris.

† The type of Léveillé's *S. Franchetiana*—one of Pratt's Ta-chien-lu specimens
 —is not the same form as Prain's *S. Yunnan* plant, which is the commonest one
 in S.W. China, and has more cordate and more deeply crenate leaves.

Flowers pink, July to September. Grassy mountain slopes.
SZECHUEN: Ta-chien-lu at 9000-13,500 ft., *Pratt*, 500,
Soulié, 448; Tongolo, *Soulié*, 727.

HUPEH: Nanto, *Henry*, 4615 (cult.); Chien-shih, *Henry*,
5913; S. Patung, *Henry*, 7316.

KWEICHOW, *Bodinier*, 1700 (type).

YUNNAN: Momein, *Anderson*; Mengtze at 7000 ft., *Henry*,
10,074, 10,074A, 10,074B, *Ducloux*, 158, *Maire*, 781, 1614, 2370,
2485; eastern flank of Tali range at 10,000 ft., *Forrest*, 861,
2483, 4539, 6828, 6828A.

6. *Stachys arvensis*, Linn.; DC. Prodr. xii, 477.

Flowers pale purple, May to July. Cultivated fields.

FUKIEN: Yuen-fu River shores, *Dunn*.

KWANGTUNG: Wu-king-fu, *Dalziel*; Han banks, Swatow,
Dunn.

7. *Stachys oblongifolia*, Benth.; Fl. Brit. Ind. iv, 676.

S. *Martini*, Vaniot in Bull. Acad. Géogr. Bot. xiv, 187.

S. *modica*, Hance in Journ. Bot. 1882, 92.

Flowers pink or purple, May to October. Fallow fields.

SZECHUEN: *Parker*.

HUPEH: Ichang, *Henry*, 560, 2003 (Nanto), 3514, 5943;
Ichang, *Wilson*, 458.

GANWHAI: Wuhu, *Carles*, *Bullock*.

KIANGSI: Kewkiang, *Shearer*.

KWEICHOW: Tchen-lin-tcheou (Martin), *Bodinier*, 1945.

8. *Stachys palustris*, Linn.; Fl. Brit. Ind. iv, 676.

Flowers pale purple, April to July. Marshes and corn-fields.

CHILI: N. China, *Bunge*; Pekin, *Bretschneider*, 595.

HUPEH: *Wilson*, 796 (Nanto); Fang, *Wilson*, 2367.

GANWHAI: Wuhu, *Carles*.

KIANGSU: Shanghai (Faber), *Hongkong Herb.* 37, *Maingay*,
343, 542, *Forbes*.

CHEKIANG: *Hickin*.

FUKIEN: Foochow, *Carles*, 748, 901.

YUNNAN: Tali range, 7000-8000 ft., *Forrest*, 4523.

KWANGTUNG: W. River, *Ford*.

39. *Galeopsis*, Linn.; DC. Prodr. xii, 498.

Galeopsis Tetrahit, Linn.; DC. Prodr. xii, 497.

Flowers white, October. Open pastures.

SZECHUEN: Ta-chien-lu, *Pratt*, 113, *Soulié*, 218; Tongolo, *Soulié*, 237; Omi at 10,800 ft., *Wilson*, 4327.

YUNNAN: eastern flank of Lichiang range at 11,000 ft., *Forrest*, 6476.

40. *Leonurus*, Linn.; Fl. Brit. Ind. iv, 677.

Leaves much dissected	1. <i>sibiricus</i> .
Leaves few-lobed or entire	2. <i>macranthus</i> .*

1. *Leonurus sibiricus*, Linn.; Fl. Brit. Ind. iv, 678.

Flowers pink, May to August. Damp open places and waste ground. Widely distributed in China from Chili and Szechuen to Kwangtung, Hainan, and Yunnan.

2. *Leonurus macranthus*, Maxim.; Mél. Biol. ix, 445.

Flowers white, August to September.

SHANTUNG: *Williams*; Wei-hai-wei, *Matthew*; Chefoo, *Faber*, 112, *Forbes*, *Maingay*, 22; Tsingtau, *Dunn*, *Schindler*.

HUPEH: Fang at 9000-10,000 ft., *Wilson*, 2612.

KIANGSU: Chinkiang, *Carles*, 508.

41. *Lamium*, Linn.; Fl. Brit. Ind. iv, 677.

1. Floral leaves sessile	1. <i>amplexicaule</i> .
Floral leaves stalked	2.
2. Lowest whorl of flowers shorter than the petiole	2. <i>foliatum</i> .
Lowest whorl exceeding the petiole	3.
3. Lowest floral leaves oblong, cuneate	3. <i>chinense</i> .
Lowest floral leaves ovate, cordate	4. <i>album</i> .

1. *Lamium amplexicaule*, Linn.; Fl. Brit. Ind. iv, 679.

Flowers pink, March to September. Fields and banks.

HUPEH: *Wilson*, 120.

KIANGSU: Shanghai, *Carles*, *Faber*.

CHEKIANG: Hoochow, *Carles*.

YUNNAN: Tsekou, *Monbeig*, 215; Lunan, *Henry*, 10,585; Yunnan-sen, *Maire*, 181, 636, 1292, 2043; Tali valley and Lichiang valley at 6000-9000 ft., *Forrest*, 2046, 4540, 4964.

2. *Lamium foliatum*, Dunn in Journ. Linn. Soc. xxxviii, 363.

Flowers pale purple or white, May. Woods.

FUKIEN: Buong-kang, Yenping (Dunn), *Hongkong Herb.* 3427.

* *L. macranthus* is represented in China by a well-marked form with the deeply-lobed lower leaves velvety beneath and upper leaves entire.

3. **Lamium chinense**, Benth. ; DC. Prodr. xii, 512.
Stachys hupehensis, Pamp. in Bull. Soc. Bot. Ital. 1911, 176.
 Flowers pink, April.
 HUPEH : Ichang, Henry, 1182 ; Chang-yang, Henry, 5220,
 Wilson, 201, 211, 4350 (Yangtze River) ; *Silvestri*, 3369, 3369A.
 CHEKIANG : Pu-to Is., Henry, 31 ; Ningpo, Everard ; Tien-
 tai mountains, Faber, 302.
 FUKIEN : Foochow, Carles, 746, 904, Dunn.*
 KIANGSI : Kewkiang, Shearer.
 KWANGTUNG : West River, Ford.
4. **Lamium album**, Linn. ; Fl. Brit. Ind. iv, 679.
 Flowers white, April to May.
 HUPEH : W. Hupeh, Wilson, 588.
 KIANGSU : Shanghai, Quinsan, Carles ; Mei-chi, Carles, 165.
 KIANGSI : Kewkiang, Faber, 695.

42. **Paralamium**, Dunn in Notes Bot. Gard. Edin. xxxvii, 168.

Paralamium gracile, Dunn l.c.

Flowers purple. Forests.

YUNNAN : S.E. of Mengtze at 6000 ft., Henry, 10,636.

43. **Loxocalyx**, Hemsl. in Journ. Linn. Soc. xxvi, 308.

Loxocalyx urticifolius, Hemsl. l.c. 309.

Flowers pink. Forests.

SZECHUEN : S. Wu-shan, Henry, 7266.

HUPEH : Hsingshan, Henry, 6482 ; Fang, 7000-9000 ft.,
 Henry, 6795.

YUNNAN : Mengtze, Henry, 10,237.

44. **Leucas**, Br. ; Fl. Brit. Ind. iv, 680.

- | | |
|---|-----------------------------|
| 1. Leaves linear, entire ; calyx very oblique | 1. <i>lavandulaefolia</i> . |
| Leaves lanceolate or ovate, crenate | 2. |
| 2. Leaves densely woolly or silky | 3. |
| Leaves subglabrous | 4. |
| 3. Calyx white, woolly | 2. <i>mollissima</i> . |
| Calyx pubescent | 3. <i>lanata</i> . |
| 4. Stem subglabrous | 4. <i>zeylanica</i> . |
| Stem densely hirsute | 5. <i>ciliata</i> . |

* The species as found by me along the banks of the Yuen-fu River near Foochow was a weed in sandy vegetable fields.

1. *Leucas lavandulaefolia*, Sm.*L. linifolia*, Spreng. ; Fl. Brit. Ind. iv, 690.

Flowers white, July. Sea sands.

KWANGTUNG ; Hongkong, Saiwan Bay (Bodinier), *Hongkong Herb.* 605.2. *Leucas mollissima*, Wall. ; Fl. Brit. Ind. iv, 682.

Flowers white, December. Dry hills and banks.

SZECHUEN : Chung-king, *Faber*, 702.HUPEH : Ichang, Nanto, *Henry*, 2349, 2599 ; *Wilson*, 379.YUNNAN : Mengtze and Szemao, *Henry*, 10,029, 10,029A.KWANGSI : Lungchow, *Morse*, 229.FUKIEN : Amoy, *Dunn*.KWANGTUNG : Hongkong, *Wright*, 391, *Hinds*, *Champion*, 458 ; Swatow, *Dunn*.HAINAN : *Henry*, 8114 ; Tingan, *Katsumata*.3. *Leucas lanata*, Benth. ; Fl. Brit. Ind. iv, 681.HAINAN : West coast, Hoi-tow (*Fagg*), *Hance*, 8782.4. *Leucas zeylanica*, R. Br. ; Fl. Brit. Ind. iv, 689.

Flowers white, March to December. River banks.

KWANGTUNG : Swatow, *Dalziel*, *Dunn*.HAINAN : *Carles*, *Henry*, 8509, *U On* ; Hoi-tow, *Hance*, 12,816.5. *Leucas ciliata*, Benth. ; Fl. Brit. Ind. iv, 687.

Flowers white or yellowish, July to October. Dry grassy mountains.

YUNNAN : *Ducloux*, 166, *Maire*, 1580, 1605 ; Mengtze, 5000 ft., *Henry*, 10,292, 10,292A ; Teng-yueh at 6000 ft., *Forrest*, 1021 ; eastern flank of Tali range at 7000-9000 ft., *Forrest*, 4537.45. *Phlomis*, Linn. ; Fl. Brit. Ind. iv, 691.

- | | |
|---|-----------------------|
| 1. Leaves rosulate ; plant acaulescent | I. <i>rotata</i> . |
| Leaves on the stem | 2 |
| 2. Leaves all narrowed or rounded at the base | 3. |
| Leaves (at least the lower ones) cordate | 5. |
| 3. Tube of the corolla nearly twice the calyx | 2. <i>albiflora</i> . |
| Tube of the corolla hardly exerted | 4. |
| 4. Flowers in the axils of the upper leaves | 3. <i>gracilis</i> . |
| Flowers mostly below the leaves | 4. <i>rugosa</i> . |
| 5. Bracts less than $\frac{2}{3}$ of calyx | 6. |
| Bracts as long as the calyx | 11. |

- | | |
|---|---------------------------|
| 6. Calyx teeth gradually acuminate | 5. <i>umbrosa</i> .* |
| Calyx teeth subulate | 7. |
| 7. Plant tall, branched | 8. |
| Plant small, unbranched | 6. <i>medicinalis</i> . |
| 8. Plant glabrous or nearly so | 7. <i>Forrestii</i> . |
| Plant uniformly pubescent | 9. |
| 9. Bracts ligulate, branched | 5. <i>umbrosa</i> .* |
| Bracts filiform, simple | 10. |
| 10. Bracts very short; leaf-stalks shorter than
their blades | 8. <i>Franchetiana</i> . |
| Bracts $\frac{1}{2}$ the calyx; leaf-stalks longer than
their blades | 9. <i>tatsiensis</i> . |
| 11. Calyx more than 1.8 cm. long | 10. <i>megalantha</i> . |
| Calyx less than 1.5 cm. long | 12. |
| 12. Annual; whole plant softly tomentose | 11. <i>dentosa</i> . |
| Perennial; leaves very rarely tomentose | 13. |
| 13. Leaves straight-sided from a broad base to
a narrow apex | 12. <i>tuberosa</i> . |
| Leaves ovate | 14. |
| 14. Leaves mostly radical, glabrous, blunt | 13. <i>atropurpurea</i> . |
| Stem leafy | 15. |
| 15. Flowers dark purple | 14. <i>bracteosa</i> .* |
| Flowers white or pale pink | 5. <i>umbrosa</i> .* |

1. *Phlomis rotata*, Benth.; Fl. Brit. Ind. iv, 694.

On scree.

YUNNAN: N.W. Yunnan at 14,000–15,000 ft., *Kingdon-Ward*.

2. *Phlomis albiflora*, Hemsl. in Journ. Linn. Soc. xxvi, 304.

Flowers white, May.

HUPEH: Ichang, Nanto, *Henry*, 720, 1575, 1910, 3576 (types), *Wilson*, 83.

* The forms which have been referred to *P. bracteosa* and *P. umbrosa* constitute a nearly complete series between these two species, and it may be that they actually indicate the uni-specific nature of the group. Many forms have been described, and many more might be added, for the shape and pubescence of the leaves, the length and shape of the bracts, vary, giving characters which combine in an infinite number of permutations. *P. bracteosa*, Royle, may be described as (1) the Indian and S.W. Chinese member of the group; *P. melanantha*, Diels (differing from typical *P. bracteosa* in its narrower more pungent bracts, but here regarded as conspecific), as occupying (2) a rather more northerly area (N. Yunnan and E. Tibet); Hemsley's var. *australis* of *P. umbrosa* as the (3) west-central Chinese representative; while typical *P. umbrosa*, Turcz., occupies (4) the northern provinces: the two latter differ from the former in their pale purple or white flowers, and *P. umbrosa* var. *australis* differs from them in its shorter, stiffer, and wider bracts.

3. *Phlomis gracilis*, Hemsl in Journ. Linn. Soc. xxvi, 305.
Flowers white.
HUPEH : Nanto, *Henry*, 2089 ; Ichang, *Henry*, 4111 (types).
4. *Phlomis rugosa*, Benth. ; Fl. Brit. Ind. iv, 693.
Lamium coronatum, Van. in Bull. Acad. Géogr. Bot. xiv, 174.
Loxocalyx Vaniotiana, Léveillé in Fedde, Repert. Nov. Sp. ix, 224.
Flowers yellow, May to August. Woods.
SZECHUEN : Yangtze River, *Faber*, 691 ; Mt. Omi, *Wilson*, 5119.
KWEICHOW : Gan-pin, *Martin et Bodinier* ; Long-ly, *Cavalerie*.
YUNNAN : Mengtze at 6000 ft., *Henry*, 10,076, 10,076A (Feng-chen-lin), 11,445 ; Szemao at 4000 ft., *Henry*, 12,599.
KWANGTUNG : *Ford*, 138 ; Lienchow River, *Matthew* ; west of Mt. Parker, Hongkong, *Tutcher*.
5. *Phlomis umbrosa*, Turcz. ; DC. Prodr. xii, 544.
P. stenocalyx, Diels in Engl. Jahrb. xxix, 555.
Flowers white or pale pink, July to September. Shady forests.
CHILI : Pekin, *Burchell* ; Po-hua-shan, *Bullock*, *Bretschneider*.
SHANTUNG : Chefoo, *Faber*, 113.
SZECHUEN : Ta-chien-lu, *Pratt*, 173, 473 ; Mt. Omi, *Wilson*, 5112 ; Pao-kang at 7000-9000 ft., *Wilson*, 2492 (?) ; W. China, *Wilson*, 4335, 4335A.
HUPEH : *Wilson*, 1054, 1452, 4337-38 ; Ichang and Patung, *Henry*, 875, 1872, 2442, 6029, 6179, 6432, 7360 ; Outanshan at 7000 ft., *Silvestri*, 2072 ; Fanpien Mt., *Silvestri*, 2069.
KIANGSU : Chinkiang, *Carles*, 512.
YUNNAN : valleys of Mekong-Salween, 6000-8000 ft., *Forrest*, 621 ; eastern flank of Lichiang range at 10,000-11,000 ft., *Forrest*, 2489, 6100.
6. *Phlomis medicinalis*, Diels in Engl. Jahrb. xxix, 554.
Flowers July.
SZECHUEN : Tsa-ku-lao, *Rosthorn*, 2530.
7. *Phlomis Forrestii*, Diels in Notes Bot. Gard. Edin. xxv, 241.
Flowers dull livid crimson, August. Among scrub and on margins of pine forests.
YUNNAN : eastern flank of Tali range at 9000-11,000 ft., *Forrest*, 4558A.

8. *Phlomis Franchetiana*, Diels in Notes Bot. Gard. Edin. xxv, 242.

Flowers dull livid crimson, August. Among scrub in and on the margins of pine forests.

YUNNAN: eastern flank of Tali range at 9000–11,000 ft., *Forrest*, 4558.

9. *Phlomis tatsiensis*, Bur. et Franch. in Journ. de Bot. v, 149.

P. Souliei, Lévillé in Fedde, Repert. Nov. Sp. ix, 222.

SZECHUEN: Ta-chien-lu, *Soulié*, 188, 867; W. China, *Bulley*.

10. *Phlomis megalantha*, Diels in Engl. Jahrb. xxxvi, Beibl. lxxxii, 95.

Flowers yellow, July.

SZECHUEN: Ta-chien-lu, *Pratt*, 505.

HUPEH: Fang, *Wilson*, 2406.

11. *Phlomis dentosa*, Franch. Pl. David. i, 243.

Flowers, June.

CHILI: Sarchy, *David*, 2731.

12. *Phlomis tuberosa*, Linn.; DC. Prodr. xii, 544.

P. betonicoides, Diels in Notes Bot. Gard. Edin. xxv, 241.

Flowers purple-violet, June. Stony cultivated ground.

CHILI: Siao-tai-shan, Pekin at 3600–5000 ft., *Moellendorf*;
Ourato, Sarchy, *David*, 2770.

YUNNAN: northern end of Lichiang valley, 9000 ft., *Forrest*, 2307, 5974.

13. *Phlomis atropurpurea*, Dunn in Notes Bot. Gard. Edin. xxxvii, 169.

Flowers dull purplish maroon, August. Open pastures.

YUNNAN: eastern flank of Lichiang range at 11,000–12,000 ft., *Forrest*, 6262.

14. *Phlomis bracteosa*, Royle; Fl. Brit. Ind. iv, 693.

P. setifera, Bur. et Franch. in Journ. de Bot. v, 149.

P. melanantha, Diels in Notes Bot. Gard. Edin. xxv, 242.

Flowers mauve to almost black, July. Open grassy places.

SZECHUEN: Ta-chien-lu, *Bonvalot et Pr. Henri*.

YUNNAN: Mengtze, W. and N. mts. at 7000–8000 ft., *Henry*, 10,216, 10,216A; eastern flank of Lichiang range at 10,000–11,000 ft., *Forrest*, 2540.

46. *Eriophyton*, Benth. ; Fl. Brit. Ind. iv, 695.*Eriophyton Wallichianum*, Benth. ; Fl. Brit. Ind. iv, 695.

Flowers pale rose, September. Limestone rocks.

YUNNAN : eastern flank of Lichiang range at 13,000–14,000 ft., *Forrest*, 2909, 6248.

47. *Microtoena*, Prain in Hook. Ic. Pl. xix, t. 1872.

- | | |
|--|-------------------------|
| 1. Calyx with acuminate subulate teeth | 2. |
| Calyx with narrow-lanceolate or triangular teeth | 3. |
| 2. Bracts ovate ; calyx teeth equal | 1. <i>Prainiana</i> . |
| Bracts filiform ; upper calyx tooth much longer than the others | 2. <i>urticifolia</i> . |
| 3. Upper calyx tooth twice the others, ligulate (not subulate) | 3. <i>Delavayi</i> . |
| Upper calyx tooth about equal to the others | 4. |
| 4. Mid-lobe of the corolla lip ligulate ; calyx teeth triangular | 4. <i>insuavis</i> . |
| Mid-lobe ovate | 5. |
| 5. Calyx teeth narrow-lanceolate | 5. <i>moupinensis</i> . |
| Calyx teeth oblong | 6. <i>robusta</i> . |

1. *Microtoena Prainiana*, Diels in Engl. Jahrb. xxix, 556.

Flowers yellow (?), September.

SZETCHUEN : Nan-chuan, *Rosthorn*, 788.

2. *Microtoena urticifolia*, Hemsl. in Journ. Linn. Soc. xxvi, 308.

Flowers yellow or white, July and August.

SZETCHUEN : W. China, *Wilson*, 4372 ; Paokang, *Wilson*, 2499.

HUPEH : Patung, *Henry*, 2536, 7339.

3. *Microtoena Delavayi*, Prain in Bull. Soc. Bot. Fr. xlii, 424.

Flowers yellow, July to August. Dry shady places.

HUPEH : Paokang, *Wilson*, 2502.

YUNNAN : *Ducloux*, 757 ; Teng-yueh, *Howell*, 136 ; eastern slope of Salween valley at 4000–5000 ft., *Forrest*, 1040.

4. *Microtoena insuavis*, Prain.

M. cymosa, Prain in Hook. Ic. Pl. xix, t. 1872.

M. Esquirolii and *mollis*, Lévêillé in Fedde, Repert. Nov. Sp. ix, 222.

Gomphostemma insuave, Hance.

Flowers yellow or reddish, March to October. Ravines and woods.

KWEICHOW: Lo-fou, *Cavalerie*, 3548; Kiao-tsong, *Esquirol*, 155; Tchen-fong, *Esquirol*, 672.

YUNNAN: Mengtze, *Henry*, 9850; Shih-ping, *Henry*, 11,583; Szemao, *Henry*, 12,588.

KWANGTUNG: Shiu-kwan River, *Lo Quai*.

5. *Microtoena moupinensis*, Franch. ex Prain in Bull. Soc. Bot. Fr. xlii, 426.

Flowers purple. Pastures and wood borders.

SZECHUEN: Moupine, *David*.

6. *Microtoena robusta*, Hemsl. in Journ. Linn. Soc. xxvi, 307.

Flowers pink. Woods.

HUPEH: Hsing-shan, *Henry*, 6482A; Fang, *Henry*, 7631.

48. *Gomphostemma*, Wall.; Fl. Brit. Ind. iv, 696.

- | | |
|---|--------------------------|
| 1. Calyx hardly ribbed | 2. |
| Calyx strongly ribbed | 5. |
| 2. Tube of corolla straight, lips small | 3. |
| Tube incurved, lips large | 4. |
| 3. Flowers in bracteate racemes | 1. <i>microdon</i> . |
| Flowers in cymes | 2. <i>parviflorum</i> . |
| 4. Corolla tube only slightly exceeding the calyx | 3. <i>pedunculatum</i> . |
| Corolla tube much longer than the calyx | 4. <i>chinense</i> . |
| 5. Calyx teeth small subulate | 5. <i>lucidum</i> . |
| Calyx teeth lanceolate, longer than the tube | 6. <i>leptodon</i> . |

1. *Gomphostemma microdon*, Dunn in Notes Bot. Gard. Edin. xxxvii, 170.

YUNNAN: Szemao, W. forests at 4500 ft., *Henry*, 12,501.

2. *Gomphostemma parviflorum*, Wall.; Fl. Brit. Ind. iv, 697.

Flowers yellow.

YUNNAN: Szemao, E. mts., *Henry*, 12,253.

3. *Gomphostemma pedunculatum*, Benth.; Fl. Brit. Ind. iv, 696.

Flowers reddish, yellowish, or white.

YUNNAN: *Henry*, 12,518, 12,518A (Szemao), 13,594 (Yuan-chang).

4. **Gomphostemma chinense**, Oliv. in Hook. Ic. Pl. t. 1468.
Flowers white, June.
FUKIEN : Amoy, *Swinhoe*.
KWEICHOW : *Cavalerie*.
KWANGTUNG : Lo-fou-shan, *Ford* ; N.W. River, *Ford*.
5. **Gomphostemma lucidum**, Wall. ; Fl. Brit. Ind. iv, 697.
Flowers white to pale yellow, July.
YUNNAN : Mengtze and Szemao, *Henry*, 11,046, 12,011,
12,011A, 12,307, 12,314, 12,609.
HAINAN : Hong-ta, *Ford*, 464.
6. **Gomphostemma leptodon**, Dunn in Notes Bot. Gard.
Edin. xxxvii, 170.
Flowers February. Among bushes.
KWANGSI : Achin Mts., Lung-chow, *Morse*, 257.
49. **Eurysolen**, Prain in Sci. Mem. Medic. Offic. Ind. xi, 43.
Eurysolen gracilis, Prain l.c. 44.
Flowers whitish. Forests.
YUNNAN : Szemao, *Henry*, 12,913.

50. **Amethystea**, Linn.

- Amethystea coerulea**, Linn. ; DC. Prodr. xii, 372.
Flowers deep blue, June to September. Dry waste ground,
walls, pastures.
CHILI : Jehol, *David*, 2064 ; Tchong-ling-fu, *Chanel*.
HUPEH : Nanto, *Henry*, 4488.
YUNNAN : Mekong valley from 5600-7000 ft., *Forrest*,
93 ; eastern flank of Lichiang range at 8200 ft., *Forrest*, 2485,
6232.

51. **Teucrium**, Linn. ; Fl. Brit. Ind. iv, 700.

1. Leaves usually trifid 1. *palmatum*.
Leaves only serrate 2.
2. Calyx about equally 5-toothed ; flowers
paniculate 3.
Calyx bilabiate, upper lobe broad rounded 4.
3. Whole plant densely yellowish-silky-hairy ;
leaves usually cordate, shortly stalked 2. *quadrifarium*.
Plant glabrous or pubescent ; leaves usually
acute at the very base with slender
stalks 3. *japonicum*.